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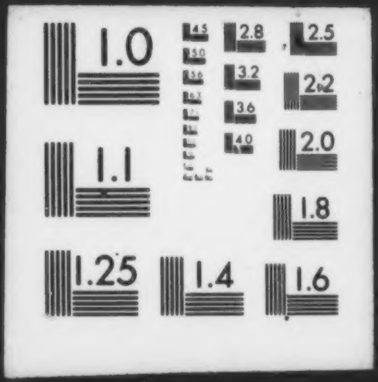
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A comparison of existing technology with projected needs indicates that some form of technology is available to achieve the required removal of suspended solids, nitrogen and phosphorus. However, development and demonstration of additional technology are needed to reduce BOD concentrations to the required limits and to provide alternate disinfection processes.

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INTERIM REPORT ON THE IMPACT OF PUBLIC LAW 92-500 ON MUNICIPAL POLLUTION CONTROL TECHNOLOGY

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CINCINNATI, OHIO 45268

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This report has been reviewed by the Municipal Environmental Research Laboratory, U.S. Environmental Protection Agency, and approved for publication. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

FOREWORD

Man and his environment must be protected from the adverse effects of pesticides, radiation, noise, and other forms of pollution, and the unwise management of solid waste. Efforts to protect the environment require a focus that recognizes the interplay between the components of our physical environment--air, water, and land. The Municipal Environmental Research Laboratory contributes to this multidisciplinary focus through programs engaged in

- studies on the effects of environmental contaminants on the biosphere, and
- a search for ways to prevent contamination and to recycle valuable resources.

This report examines the impact of water quality required by Public Law 92-500 on the effluent quality discharged from publicly owned wastewater treatment plants and assesses the adequacy of existing technology to meet these requirements.

Louis W. Lefke
Acting Director
Municipal Environmental
Research Laboratory

ABSTRACT

This report presents available information that is used to examine the impact of water quality required by Public Law 92-500 on the effluent quality discharged from publicly owned wastewater treatment plants and assesses the adequacy of existing technology to meet these requirements. The report also identifies effluent standards that are more stringent than the national minimum requirement for "secondary" treatment. A major effort was, therefore, devoted to reviewing state water quality standards, identifying all water quality limited stream segments within each state, and summarizing and evaluating concentrations of pollutants in municipal wastewater treatment plant effluents reported in the 1973 Needs Survey.

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Resources Management Program - Program Reporting Division
Environmental Engineering Program - Municipal Pollution Control Division

Regions

The Ten Regional Water Quality Standards Offices

Environmental Research Centers

Pacific Northwest Environmental Research Laboratory - Corvallis, Oregon
Computer Services and Systems - Office of Administration - Cincinnati, Ohio
Office of the Director, Wastewater Research Division, Municipal Environmental Research Laboratory, Cincinnati, Ohio
Systems and Economic Analysis Section, Technical Development Support Branch, Wastewater Research Division, Municipal Environmental Research Laboratory, Cincinnati, Ohio

EXECUTIVE SUMMARY

The purpose of this report is to examine the impact of water quality required by Public Law 92-500 on the effluent quality discharged from publicly owned wastewater treatment plants and to assess the adequacy of existing technology to meet these requirements. Since the principal emphasis in this report is to identify effluent standards that are more stringent than the National minimum requirement for "secondary" treatment, a major effort was devoted to: (1) reviewing State water quality standards; (2) identifying and classifying all water-quality-limited stream segments (WQLSS) within each State; (3) and summarizing and evaluating existing and projected concentrations of pollutants in municipal wastewater treatment plant effluents, as reflected in the 1973 Needs Survey data.

Effluent limitations more stringent than "secondary" treatment are required of wastewater treatment plants discharging into streams classified as water quality limited. Based on information supplied by the EPA Regions and the states, there are approximately 8,500 municipal wastewater treatment facilities located along 3,299 WQLSS; total segments number 6,493. In addition, six states have established state-wide effluent standards more stringent than "secondary" treatment.

The problem of eutrophication occurring in lakes and reservoirs has prompted 32 states to adopt clearly defined nitrogen-control criteria and 21 to establish phosphorus-control criteria. Although application of nutrient-control procedures has been implemented in several areas, the quality of our waterways is generally worsening, according to the National Water Quality Inventory, 1974 Report to Congress.

The 1973 Needs Survey data indicated that 780 municipal wastewater treatment plants planned to remove phosphorus to a level of less than or equal to 1 mg/l and that 698 intended to achieve that level in the case of inorganic nitrogen (Table A). Conventional secondary wastewater treatment systems cannot reach this level of effluent quality, but advanced waste treatment processes can be incorporated into them to produce the required results. Effluent total phosphorus, for example, can be reduced to less than 0.05 mg/l in a biological treatment plant where two-stage, tertiary lime addition plus filtration are provided. In the case of inorganic nitrogen, four and six, respectively, of the seven processes listed in Table B can achieve concentrations below 1 mg/l for nitrate and ammonia nitrogen. It should be noted, however, that all of the total nitrogen values exceed 1 mg/l because present technology cannot prevent at least that amount of refractory organic nitrogen from passing through each system.

Table A. SUMMARY OF NUTRIENT REMOVAL FROM 1973 NEEDS SURVEY

	Plants Requiring Nutrient Removal				Plants Requiring Nutrient Removal Less Than or Equal to 1 mg/l			
	Number of Plants		Flow (mgd)		Number of Plants		Flow (mgd)	
	E	P	E	P	E	P	E	P
P Removal	708	1,001	2,427	4,960	46	780	273	4,041
NH_3 Removal	564	1,167	2,243	5,162	24	620	40	2,720
NO_3 Removal	78	179	359	856	16	78	59	328

E - Number of plants existing in 1973 for which treatment beyond secondary is required.

P - Number of plants existing in 1973 that projected they would have to meet effluent concentrations sufficient to achieve the most stringent effluent limitations.

Table B. EFFLUENT QUALITY EXPECTED FROM NITROGEN CONTROL PROCESSES (INFLUENT TOTAL NITROGEN 25-30 mg/1)

	Effluent Quality Expected (mg/1)			
Process	Organic N	NO_3-N	NH_4-N	Total N
Single-Stage Nitrification	1.5-2.5	18-22	0.5-1.0	20-26
Two-Stage Nitrification	1.0-2.0	18-22	0.5-1.0	20-25
Single-Stage Nit. - Denit.	2.0-3.0	1.0-2.0	1.0-2.0	4.0-7.0
Separate Stage Nit. - Denit.	1.0-2.0	0.1-0.5	0.5-1.0	1.6-3.5
Selective Ion Exchange	1.5-2.5	0.1-0.2	0.5-1.0	2.1-3.7
Breakpoint Chlorination	1.5-2.5	0.1-0.2	0.1-0.3	1.7-3.0
Ammonia Stripping	1.5-2.5	0.1-0.2	0.5-1.0	2.1-3.7

Analysis of the 1973 Needs data also indicates that about 5 percent of the municipal wastewater treatment plants projected that they would have to meet effluent BOD and suspended solids concentrations of 5 mg/l or less. Since approximately 70 percent of all upgrading will be required for plants having less than a 1 mgd flow, available filtration or alternate solids removal technology applicable to small-size plants needs to be optimized. While some conservatively designed plants that follow biological treatment with efficient suspended solids removal will be able to approach or achieve a 5 mg/l BOD concentration, many high-rate systems and plants that receive moderate industrial contributions will have to provide additional treatment. This implies that the need exists to develop and demonstrate cost-effective technologies for systems such as high rate carbon adsorption-filtration, powdered carbon addition, or tertiary oxidation if these plants are to produce an effluent of this quality.

Certain areas of the country have depleted or are about to deplete their natural water resources. This situation, coupled with increasing water quality deterioration, stresses the need for considering the feasibility of using properly treated wastewaters to help meet water demands. Out of 358 sites within the conterminous United States that have such a program, only one makes direct reuse of wastewater for domestic purposes. The National Park Service facility in Grand Canyon National Park provides an average of 30,000 gpd for nonpotable uses.

All known municipal wastewaters are presently disinfected with chlorine before being discharged into a body of water which has resulted in a decrease of coliform bacteria concentrations in up to 78 percent of the reaches in 22 major waterways. Some states are, however, questioning the need for universal disinfection of municipal effluents while other authorities have pointed to the problems of chlorine toxicity to aquatic life and more recently to the possible carcinogenicity of chlorinated organics as detrimental effects of current disinfection practice. This concern clearly indicates the need for development and demonstration of alternate disinfection technology capable of meeting low fecal and total coliform standards without producing high chlorine or chlorinated by-product residuals.

Definitive effluent standards and associated technological needs cannot be identified until the waste load allocations and discharge permits for each facility have been approved. However, an interim summary indicates that some form of technology is available for required suspended solids, nitrogen, and phosphorus removal. Additional development and demonstration of technology is needed for BOD removal to less than 5 mg/l, for alternate disinfection processes, and for control of chlorinated organics. Special research emphasis should be placed on optimizing the cost effectiveness of available and newly developed technology for municipal treatment plants in the smaller flow ranges. Although they have not been included in this report, there is also a definite need for sludge disposal alternatives and control of specific pollutants such as heavy metals.

INTRODUCTION

PURPOSE OF REPORT

The purposes of this report are to: (1) assess the ability of existing technology to meet the effluent quality requirements imposed by Public Law (PL) 92-500 on publicly owned wastewater treatment plants; (2) delineate areas in which research is needed to upgrade current deficiencies. This assessment has been derived primarily from information provided by municipal authorities in the 1973 Needs Survey. When sufficient data becomes available, this report will be updated to reflect the actual -- as opposed to the anticipated -- impact of the law.

BACKGROUND, GOALS AND REQUIREMENTS OF PUBLIC LAW 92-500

Public Law 92-500 was enacted on October 18, 1972. This Act expands the Federal authority for regulating water quality that was originally contained in the Federal Water Pollution Control Act of 1948, the amended Water Pollution Control Act of 1956, The Water Quality Act of 1965, the Clean Water Restoration Act of 1966, and the Water Quality Improvement Act of 1970.

The broad objective of Public Law 92-500 is to restore and maintain the biological integrity of the Nation's waters.

The two general goals established for the United States under this act (1) are:

- to achieve, wherever possible; by July 1, 1983, water that is clean enough for swimming and other recreational uses, and clean enough for the protection and propagation of fish, shellfish, and wildlife.
- and by 1985, to eliminate all discharge of pollutants into the Nation's waters

Water quality standards, first established under Federal law in the Water Quality Act of 1965 (2), defined planned uses of interstate and coastal waters with the purposes of limiting the amount and distribution of pollutants permitted in these waters. The four major components of water quality standards are: (2)

I. Stream Use Classification

  Class A - Primary water contact recreation

  Class B - Fish and wildlife propagation

  Class C - Public water supply source

Class D - Agricultural and industrial uses

II. Water Quality Criteria - scientific measurements of the specific amount and quality of each pollutant that can be tolerated in the water at any given time, depending upon its designated use

III. Anti-degradation Statement - a statement certifying that degradation of water quality is prohibited except as a result of necessary economic development

IV. Implementation and Enforcement Plan

Public Law 92-500 requires states to continue applying interstate water quality standards established under the 1965 Act and to develop additional standards for intrastate waters. These standards are coordinated with the national 1983 interim goal for protection of fish, shellfish, wildlife, and recreation, in and on the water. States are required to raise all water to either a Class A or Class B stream use classification to achieve this goal. Although the States still continue to have primary responsibility for controlling water pollution, they must do so now within the framework of a Federal law that contains authority. Furthermore, if the states do not or cannot fulfill their responsibilities under the law, the Federal Government, through the U.S. Environmental Protection Agency (EPA), is empowered and directed to take appropriate action.

Under Public Law 92-500, implementation of water quality standards will be accomplished by:

- the permit program (National Pollutant Discharge Elimination System)
- the individual basin plans (section 303(e) that must also reflect the objectives and goals of completed 201 facility plans and 208 area-wide plans)
- the annual state strategy (section 106)

In the permit program, water quality standards will serve as a mechanism to judge the adequacy of effluent limitations in meeting the goals of Public Law 92-500. The law requires publicly owned wastewater treatment plants to provide a minimum of "secondary treatment" by July 1, 1977, and to apply the "best practicable treatment" technology by July 1, 1983 (3). A major provision of the law is the requirement that if the nationwide minimum standards for secondary or best practicable treatment will not reduce pollution enough to meet water quality standards established by a state or the EPA, then more stringent controls must be imposed on pollution sources so that these standards can be met.

The National Pollutant Discharge Elimination System (NPDES) permit is the mechanism for ensuring that effluent limitations are met. This permit must specify which pollutants may be discharged and must set average and maximum daily limits of those discharges (waste load allocations) as needed to meet: effluent standards and limitations, water quality standards, and any other Federal or state requirements. Under the 1972 law, each point source discharger was to be issued an NPDES permit by December 31, 1974. This was not achieved by the target date (Table 1); only 85 percent of the major municipal permits and 61 percent of the minor municipal permits had been issued through December 31, 1974.

Section 303(e) of Public Law 92-500 requires each State to submit a continuing planning process. These 303(e) basin plans are management documents that: identify the water quality problems of a particular basin and set forth an effective remedial program to alleviate them; and provide the guidance for developing the annual state program submitted under section 106 of Public Law 92-500. The relationship of the 303(e) plans to the 106 state program plans is shown in Figure 1.

Details of a particular basin plan will depend upon the complexity of problems in each stream segment within the basin. Basin plans must include, as a minimum: (5)

a. a classification of all waters into either water quality limited stream segments (WQLSS) or effluent limited stream segments (ELSS),

b. identification and assessment of all pollution sources,

c. a ranking of each segment of water in order of priority for improvement,

d. compliance schedules where permits have been issued or target abatement dates where permits have not been issued, and

e. identification of needs and priorities for section 201 facility plans and for section 208 areawide plans within the basin.

A summary of the basic planning system for 303(e) plans is shown in Figure 2. All basin plans must have been submitted by July 1, 1975, unless an extension of time was granted by the Regional Administrator. As shown in Figure 2, the basic 303(e) plan requires that waste load allocations be established for all WQLSS. These waste load allocations will be used as a basis for issuing permits to publicly owned wastewater treatment facilities discharging to WQLSS.

APPROACH AND DATA BASES

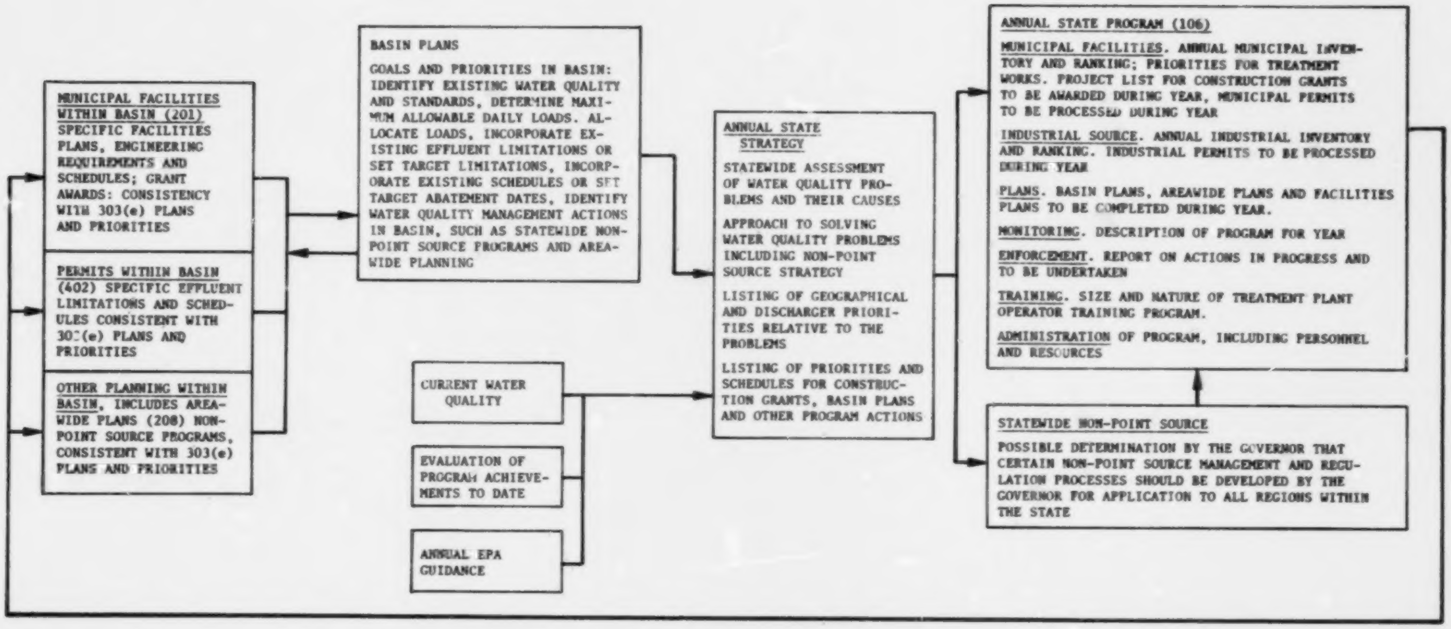
Implementation of the planning, monitoring, and enforcement regulations of Public Law 92-500 has generated a number of comprehensive Federal, regional and state programs. These programs collect, store, and manage information and data from a wide variety of sources including water quality and effluent requirements, construction grant needs, municipal permits, plant inventories, and state water quality standards. All of these data sources have been reviewed and used as a basis of this report where possible. Since it is also the intent of this report to identify effluent standards that are more stringent than the national minimum requirements for "secondary" and "best practicable" treatment, a major effort was devoted to review of the state water quality standards, load allocation data submitted as part of the 303(e) planning requirements, and other data supporting the need for more stringent effluent standards. The principal and supporting data bases used in this report are:

Table 1. MUNICIPAL PERMITS ISSUED BY EPA AND STATES THROUGH 12/31/74 (4)

Permit	Region										
	I	II	III	IV	V	VI	VII	VIII	IX	X	Total
Major[a]											
Total applications	185	400	276	551	387	389	200	93	197	115	2,793
Issued to date	178	266	266	537	347	278	153	85	162	97	2,369
Percent issued	96%	67%	96%	97%	90%	71%	77%	91%	82%	84%	85%
Minor[b]											
Total applications	474	1005	1035	2318	3224	2220	1978	1493	289	600	14,646
Issued to date	281	502	650	1301	1824	1322	1373	830	228	382	8,893
Percent issued	59%	50%	63%	56%	56%	60%	69%	56%	79%	64%	61%

[a] Major - 1.0 MGD or greater

[b] Minor - Less than 1.0 MGD


MUNICIPAL FACILITIES WITHIN BASIN (201) SPECIFIC FACILITIES PLANS, ENGINEERING REQUIREMENTS AND SCHEDULES; GRANT AWARDS: CONSISTENCY WITH 303(e) PLANS AND PRIORITIES

PERMITS WITHIN BASIN (402) SPECIFIC EFFLUENT LIMITATIONS AND SCHEDULES CONSISTENT WITH 303(e) PLANS AND PRIORITIES

OTHER PLANNING WITHIN BASIN, INCLUDES AREAWIDE PLANS (208) NON-POINT SOURCE PROGRAMS, CONSISTENT WITH 303(e) PLANS AND PRIORITIES

BASIN PLANS

GOALS AND PRIORITIES IN BASIN: IDENTIFY EXISTING WATER QUALITY AND STANDARDS, DETERMINE MAXIMUM ALLOWABLE DAILY LOADS. ALLOCATE LOADS, INCORPORATE EXISTING EFFLUENT LIMITATIONS OR SET TARGET LIMITATIONS, INCORPORATE EXISTING SCHEDULES OR SET TARGET ABATEMENT DATES, IDENTIFY WATER QUALITY MANAGEMENT ACTIONS IN BASIN, SUCH AS STATEWIDE NON-POINT SOURCE PROGRAMS AND AREAWIDE PLANNING

CURRENT WATER QUALITY

EVALUATION OF PROGRAM ACHIEVEMENTS TO DATE

ANNUAL EPA GUIDANCE

ANNUAL STATE STRATEGY

STATEWIDE ASSESSMENT OF WATER QUALITY PROBLEMS AND THEIR CAUSES

APPROACH TO SOLVING WATER QUALITY PROBLEMS INCLUDING NON-POINT SOURCE STRATEGY

LISTING OF GEOGRAPHICAL AND DISCHARGER PRIORITIES RELATIVE TO THE PROBLEMS

LISTING OF PRIORITIES AND SCHEDULES FOR CONSTRUCTION GRANTS, BASIN PLANS AND OTHER PROGRAM ACTIONS

ANNUAL STATE PROGRAM (106)

MUNICIPAL FACILITIES. ANNUAL MUNICIPAL INVENTORY AND RANKING; PRIORITIES FOR TREATMENT WORKS. PROJECT LIST FOR CONSTRUCTION GRANTS TO BE AWARDED DURING YEAR, MUNICIPAL PERMITS TO BE PROCESSED DURING YEAR

INDUSTRIAL SOURCE. ANNUAL INDUSTRIAL INVENTORY AND RANKING. INDUSTRIAL PERMITS TO BE PROCESSED DURING YEAR

PLANS. BASIN PLANS, AREAWIDE PLANS AND FACILITIES PLANS TO BE COMPLETED DURING YEAR.

MONITORING. DESCRIPTION OF PROGRAM FOR YEAR

ENFORCEMENT. REPORT ON ACTIONS IN PROGRESS AND TO BE UNDERTAKEN

TRAINING. SIZE AND NATURE OF TREATMENT PLANT OPERATOR TRAINING PROGRAM.

ADMINISTRATION OF PROGRAM, INCLUDING PERSONNEL AND RESOURCES

STATEWIDE NON-POINT SOURCE

POSSIBLE DETERMINATION BY THE GOVERNOR THAT CERTAIN NON-POINT SOURCE MANAGEMENT AND REGULATION PROCESSES SHOULD BE DEVELOPED BY THE GOVERNOR FOR APPLICATION TO ALL REGIONS WITHIN THE STATE

Figure 1. Annual State Planning and Management Actions(6)

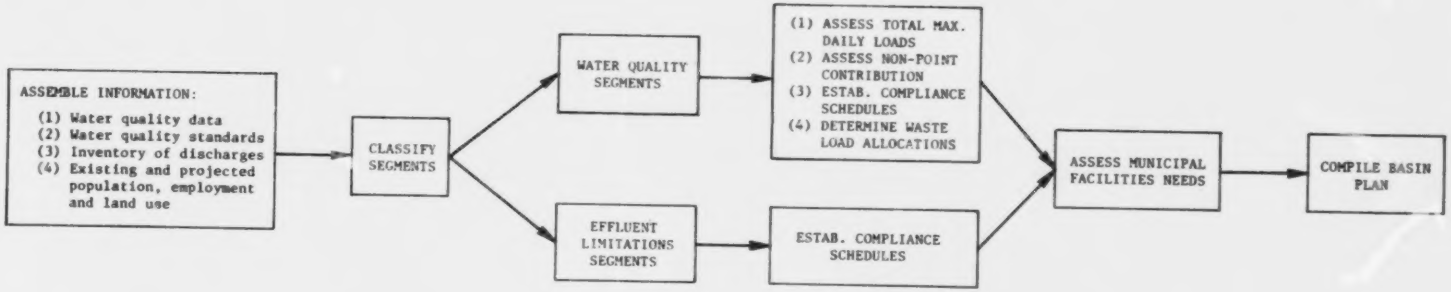

ASSEMBLE INFORMATION:
(1) Water quality data
(2) Water quality standards
(3) Inventory of discharges
(4) Existing and projected population, employment and land use
CLASSIFY SEGMENTS
WATER QUALITY SEGMENTS
EFFLUENT LIMITATIONS SEGMENTS
(1) ASSESS TOTAL MAX. DAILY LOADS
(2) ASSESS NON-POINT CONTRIBUTION
(3) ESTAB. COMPLIANCE SCHEDULES
(4) DETERMINE WASTE LOAD ALLOCATIONS
ESTAB. COMPLIANCE SCHEDULES
ASSESS MUNICIPAL FACILITIES NEEDS
COMPILE BASIN PLAN

Figure 2. Basic Planning System for 303(e) Plans(6)

Principal Data Bases

- Water Quality Standards for All States
- 1973 Survey of Needs for Municipal Wastewater Treatment Facilities
- Water Quality Limited Stream Segments
- Municipal Waste Facilities August 1974 Inventory - Storet
- 303(e) Basin Plans
- Program Summary Report, December 31, 1974 - EPA Office of Planning and Management
- Stream Segment File - EPA State Programs Branch
- National Water Quality Inventory - 1974 EPA Report to Congress
- Municipal Waste Water Treatment Unit Process Inventory, November 30, 1973 - EPA Office of Water Programs
- EPA Report to Congress - Costs of Construction of Publicly Owned Wastewater Treatment Works (1973 Needs Survey)
- EPA Preliminary Report to Congress - State Cost Estimates for Construction of Publicly Owned Wastewater Treatment Facilities (1974 Needs Survey)
- Water Quality Management Basin Plans - Policies and Procedures, Federal Register, June 3, 1974
- Kentucky State Continuing Plans
- EPA National Eutrophication Survey - Nitrogen and Phosphorus in Wastewater Effluents
- Survey of Construction Grant Activity for Implementation of Nitrogen Control Technology - EPA Office of Air, Land, and Water Use

Supporting Data Bases

- Clean Water - EPA 1974 Report to Congress - Section 516(a) of PL 92-500
- Storet - Optimum Systems Inc. Computer Utility
- National Lake Survey Program Highlights, EPA Environmental Research Laboratory - Corvallis, Oregon
- Monthly Spot Report, July 31, 1974 - EPA Office of Planning and Management
- Facilities Priority - Kentucky FY'75
- Municipal Facilities Grant Priorities - State of Tennessee
- Chesapeake Bay Research by Chesapeake Research Consortium, Inc.
- Water Quality Index Application in the Kansas River Basin
- Water Quality Management Plans for State of North Carolina (Draft)
- Water Quality Segment Report - State of Michigan, July, 1973

- California Water Quality Control Plans
- Water Quality Baseline Assessment for Cleveland Area - Lake Erie
- Waste Load Allocation Study - St. Andrew Bay, Florida

To establish effluent requirements as dictated by state water quality standards, the general approach has been to:

- identify all WQLSS in the United States.
- identify all publicly owned treatment works (POTW's) discharging to WQLSS, and classify each POTW according to design flow and degree of treatment provided.
- summarize effluent standards from POTW's as determined by waste load allocations to WQLSS.
- summarize number of plants located on WQLSS that will have to meet various effluent qualities and the total flow from these plants.
- identify and prioritize research by comparing needed technology with existing technology.

During the initial phases of data collection for this report, it became evident that only a very small percentage of the 303(e) basin plans, had been completed. The total number of 303(e) basin plans required under Public Law 92-500 is 620; by December 1, 1974, the number of plans completed and approved by the state planning authorities and regional EPA offices was 48 (7):

Region	Required	Approved
I	73	0
II	93	4
III	46	0
IV	93	3
V	73	0
VI	50	11
VII	44	1
VIII	53	6
IX	44	0
X	51	23
Total	620	48

To assess the adequacy of present municipal treatment technology, data from the waste load allocations and the 1973 Needs Survey (8) have been used. Because the waste load allocation data are limited and the Needs Survey contained inadequacies and deficiencies, conclusions of this report should be considered preliminary. Furthermore, it is recommended that this report be updated as the waste load allocation data become available.

WATER QUALITY

WATER QUALITY LIMITED STREAM SEGMENTS AND WASTE LOAD ALLOCATIONS

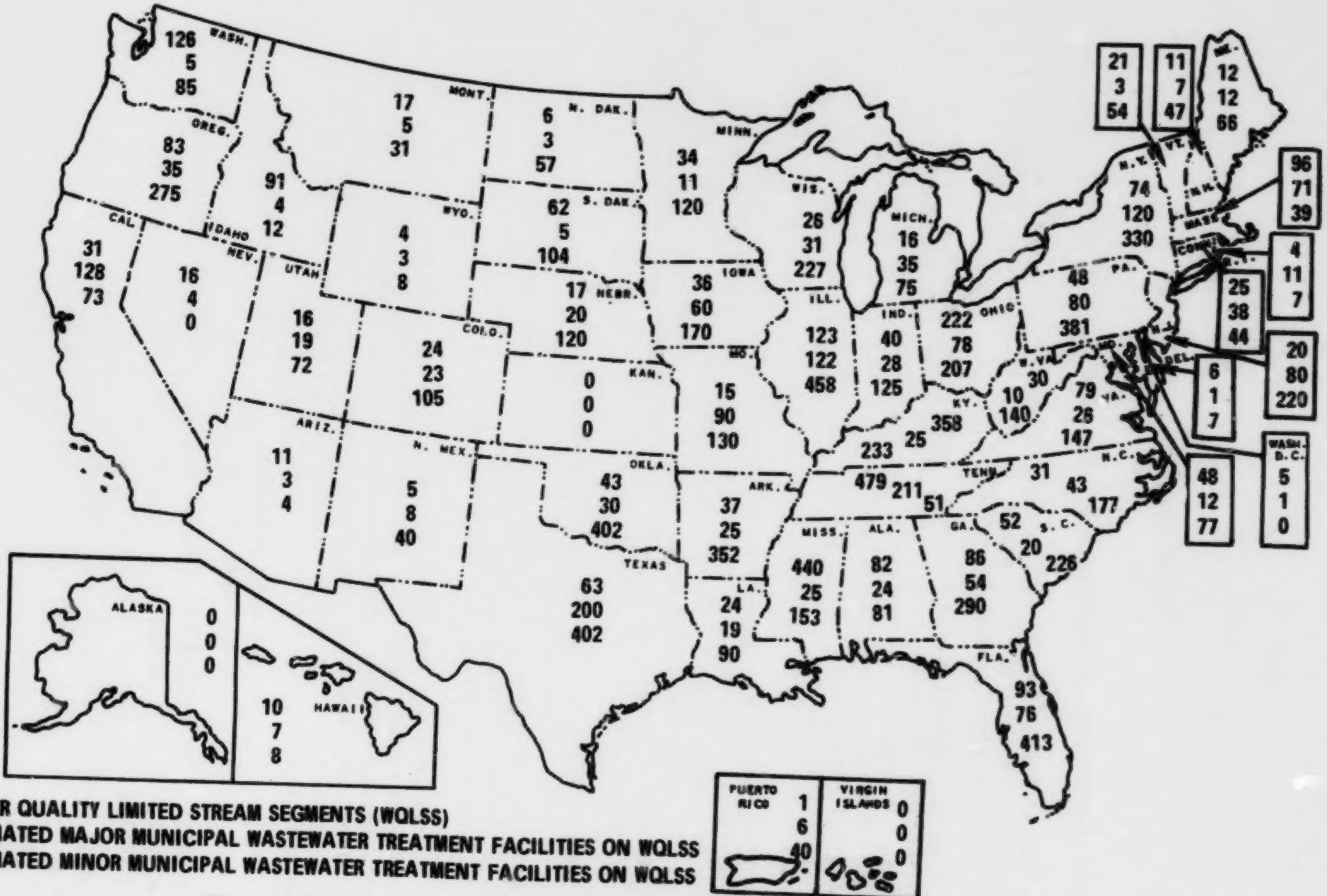
A major feature of Public Law 92-500 is the requirement that each state identify and classify both its intrastate and interstate waters as being effluent or water quality limited (EL or WQL) (5).

> Water quality limited stream segment - Any segment where it is known that water quality does not meet applicable water quality standards and/or is not expected to meet applicable water quality standards even after the application of the effluent limitations required by sections 301(b)(1)(A) (industries apply best practicable control technology currently available) and 301(b)(1)(B) (municipalities provide secondary treatment) of Public Law 92-500.
>
> Effluent limited stream segment - Any segment where it is known that water quality is meeting and will continue to meet applicable water quality standards or where there is adequate demonstration that water quality will meet applicable water quality standards after the application of the effluent limitations required by sections 301(b)(1)(A) and 301(b)(1)(B) of Public Law 92-500.

Section 303(d)(1)(C) of the Act requires that waste load allocations be established to limit the discharge of certain pollutants, as defined by section 304(a)(2), to those levels necessary to meet the applicable approved water quality standards in the WQLSS. These waste load allocations must be developed for all point source dischargers in the basin.

Summarized in Figure 3 are the WQLSS for each state and an estimate of the number of major and minor municipal wastewater treatment facilities located along these segments (9)(10). Extrapolation of these data and the 1973 Needs Survey to reflect the number of municipal wastewater treatment facilities located on WQLSS and ELSS in August, 1974 (22,279 total facilities) produced the following figures:

	Estimate Prepared By Headquarters		1973 Needs Survey	
Segment	Original	Extrapolated	Original	Extrapolated
Water Quality Limited Stream	8,882	9,397	5,158	7,597
Effluent Limited Stream	12,173	12,882	9,968	14,682


WASH. 126 5 85
OREG. 83 35 275
CAL. 31 128 73
IDAHO 91 4 12
NEV. 16 4 0
MONT. 17 5 31
WYO. 4 3 8
UTAH 16 19 72
ARIZ. 11 3 4
COLO. 24 23 105
N. MEX. 5 8 40
N. DAK. 6 3 57
S. DAK. 62 5 104
NEBR. 17 20 120
KAN. 0 0 0
OKLA. 43 30 402
TEXAS 63 200 402
MINN. 34 11 120
IOWA 36 60 170
MO. 15 90 130
ARK. 37 25 352
LA. 24 19 90
WIS. 26 31 227
ILL. 123 122 458
MICH. 16 35 75
IND. 40 28 125
OHIO 222 78 207
KY. 233 25 358
TENN. 479 211 51
MISS. 440 25 153
ALA. 82 24 81
GA. 86 54 290
FLA. 93 76 413
S. C. 52 20 226
N. C. 31 43 177
VA. 79 26 147
W. VA. 10 140 30
PA. 48 80 381
N. Y. 74 120 330
MD.
DEL.
N. J.
CONN.
R. I.
MASS.
N. H.
VT.
ME. 12 12 66
21 3 54
11 7 47
96 71 39
4 11 7
25 38 44
20 80 220
6 1 7
48 12 77
WASH. D. C. 5 1 0
ALASKA 0 0 0
HAWAII 10 7 8
PUERTO RICO 1 6 40
VIRGIN ISLANDS 0 0 0

WATER QUALITY LIMITED STREAM SEGMENTS (WQLSS)
ESTIMATED MAJOR MUNICIPAL WASTEWATER TREATMENT FACILITIES ON WQLSS
ESTIMATED MINOR MUNICIPAL WASTEWATER TREATMENT FACILITIES ON WQLSS

Figure 3. Distribution of Water Quality Limited Stream Segments and an Estimation of Municipal Wastewater Treatment Facilities on these Segments as of December 31, 1974 (9) (10).

Some states have not formally completed their stream classifications and will not do so until the studies needed to complete the 303(e) basin plans have been finalized. However, most states have an indication as to the proposed classification of the streams within their state.

The numbers of WQL, EL, and total stream segments as supplied by the Regions and States are shown in Table 2. This distribution of stream segments is somewhat dynamic and will change because of future changes in water quality or methods of classification. Figures A-1 thru A-10 in the appendix are EPA regional maps with the WQLSS delineated (11). In addition, each WQLSS is described in Tables A-1 thru A-10 of the appendix.

STATE WATER QUALITY STANDARDS

General

Water quality criteria established in the state water quality standards provide a means for determining how waters of the states may be best utilized and provide a guide for determining wastewater treatment requirements.

These water quality standards are a means by which the effectiveness of effluent limitations can be measured. High quality receiving waters are protected by effluent limitations based on the following national minimum standards for secondary treatment (12):

Parameter	Average Monthly Concentration
BOD, mg/l	30
Suspended Solids, mg/l	30
Fecal coliform, no./100 ml.	200
pH	6-9

The proposed Best Practicable Treatment (13) will also serve to protect receiving waters. In addition to these national standards, six states have established more stringent standards than are included in EPA's definition of secondary treatment and some of these six states have included more parameters than are listed above. Of these six states, only in Illinois are metals included in the state-wide effluent requirements (Table 3).

As mentioned, states are responsible for establishing water quality standards for their streams. These standards vary significantly from state to state, both in scope and in the degree of contaminant removal required. The more stringent standards are often established to protect streams classified as scenic waters, trout streams, raw water used for drinking purposes, or waters used for shellfish propagation. They are also used to protect streams where, in low-flow conditions, effluent flow is greater than stream flow or to check or reduce nutrients leading to eutrophication of lakes and reservoirs and deterioration of other waters. The most stringent water quality standards for the most common parameters as they apply to streams, lakes, and esturaries, are summarized in Table 4.

Table 2. TOTAL WATER QUALITY LIMITED AND EFFLUENT LIMITED STREAM SEGMENTS WITHIN EACH EPA REGION, 12/31/74 (10)

Region	Water quality limited stream segments	Effluent limited stream segments	Total segments
I	169	761	930
II	95	80	175
III	216	200	416
IV	1621	800	2421
V	461	318	779
VI	172	479	651
VII	68	240	308
VIII	129	53	182
IX	68	230	298
X	300	33	333
Total	3299	3194	6493

Table 3. COMPARISON OF EPA MINIMUM STANDARDS WITH THE MORE STRINGENT STANDARDS OF SIX STATES (10)

Constituent (mg/l)	EPA minimum	Florida	Illinois	Minnesota	Missouri	North Dakota	Utah
BOD	30	90% Removal	30	30	20	25	25
SS	30	90% Removal	15	30	20	30	25
P				1			
Fecal Coliform[a]	200	200	200	200	200	200	200
As			0.25				
Ba			2.0				
Cd			0.15				
Cr-hex			0.3				
Cr-tri			1.0				
Cu			1.0				
Fe-total			2.0				
Fe-dissolved			0.5				
Pb			0.1				
Mn			1.0				
Hg			0.0005				
Ni			1.0				
Ag			0.1				
Zn			1.0				
Se			1.0				
Cyanide			0.025				
Fluoride			2.5				
Oil			15				
Phenols			0.3				

[a] Fecal coliform measurement is the number of coliforms per 100 milliliter

Table 4. STATES HAVING MOST STRINGENT WATER QUALITY STANDARDS AND THE ALLOWABLE CONCENTRATION (16)

	Streams		Great Lakes		Estuaries	
Constituent	Concentration (mg/1)	State	Concentration (mg/1)	State	Concentration (mg/1)	State
BOD_5	1.0	Nev.				
Suspended Solids	5.0*	Ill.				
Fecal Colif.	5/100 ml	Calif.	5/100 ml (mean)	Ohio	15/100 ml	Me., R.I., Conn., S.C., Ala., N.J., Ak., Calif.,
Total Colif.	23/100 ml (median)	Calif.			70/100 ml	o
NH_3-N	0.1‡"	Mo.	0.02	Ill., Ind.		
NO_3-N	1.0	Nev., Calif.				
Total N	3.0	Del.			0.1	Hi.
Total PO_4 as P	0.02	Hi.	0.007	Ill.	0.02	Hi.
Dissolved Oxygen	9.5	Wash.	6.0	Ill., Mich.	7.0 (annual avg.)	Calif.
Alkalinity	20.0	Del.				
Hardness	95.0	Del., Pa.	110.0	Ohio		
Total Dissolved Solids	60.0	Nev.	160.0	Ohio	450.0	Calif.
Turbidity	5.0 JTU	Minn. Ida., Ak., R.I.			25.0 JTU	Ak.
Temperature	1°F above natural	Vt.	3°F above natural	Ill., Ind.	4°F above natural	Conn.
Total Cl Res.	1.0#	Tex.			1.0	Calif.
Methylene Blue Active Substance	0.1	Calif., Del.	0.05	Ohio	0.5	Calif.

Table 4. (Cont.)

Constituent	Streams Concentration (mg/1)	Streams State	Great Lakes Concentration (mg/1)	Great Lakes State	Estuaries Concentration (mg/1)	Estuaries State
Carbon Chloroform Extract	0.1**	Ak.				
Oil (hexane ext.)	0.1	Calif.			10.0	Calif.
Phenols	0.001	Ill., Ohio, Mich., Neb., N.H., N.Y., N.C., Ga., Miss., Ia., W. Va.	0.0005	Ohio	0.001	N.H., Calif.
Al	0.1	Ill.			10.0	Calif.
As (total)	0.01	Ill., Mich., W. Va.	0.001	Ohio	0.01	Calif.
Ba (total)	0.5	W. Va., Calif.	1.0	Ohio	0.1	Calif.
B (total)	0.3	Ak., Calif.				
Cd (total)	0.005	Ohio	0.0005	Ohio	0.01**	Calif.
Chloride	3.0	Nev.	10.0	Ind.		
Cr (hex.)	0.01	Ohio	0.05	Ind.	0.05	Calif.
Cu (total)	0.01	Minn.	0.005	Ohio	0.01	Calif.
Cyanide	0.001	Ohio	0.01	Ind.	0.01	Calif.
Fluoride	0.2	Del.	0.15	Ohio	0.5	Calif.
Fe (total)	0.2	Calif.	0.3	Mich., Ohio	**	
Pb (total)	0.04	Ohio	0.05	Ind., Ohio	0.05**	Calif.
Mn (total)	0.05	Ill., Calif.	0.05	Ohio	0.05	Calif.
Hg (total)	0.0005	Ill., Ohio	0.0001	Ohio	0.001	Calif.
Ni (total)	1.0	Ill.	0.05	Ohio	0.1	Calif.

Table 4. (Cont.)

Constituent	Streams		Great Lakes		Estuaries	
	Concentration (mg/1)	State	Concentration (mg/1)	State	Concentration (mg/1)	State
Se (total)	0.005	Ohio	0.001	Ohio	0.01	Calif.
Ag (total)	0.001	Ohio	0.001	Ohio	0.02**	Calif.
Na	20.0	Conn.				
Sulfate	5.0	Calif.	0.015	Ohio	0.1	Calif.

* Dilution ratio is <1 to 1

○ All coastal states including Hawaii and Alaska are engaged in shellfish propagation and **have** a total coliform standard of 70/100 ml.

+ Trust territory of the Pacific Islands, NH_3 - N = 0.01 mg/1 as N

:: Guam, NH_3 - N = 0.01 mg/1 as N; CCE = 0.04 mg/1

# Several states are proposing a residual of <0.005 mg/1

** Puerto Rico, Cd = 0.0002 mg/1; Fe = 0.05 mg/1; Ag = 0.0005 mg/1; Pb = 0.005 mg/1

SPECIAL WATER QUALITY REQUIREMENTS

Nitrogen Control

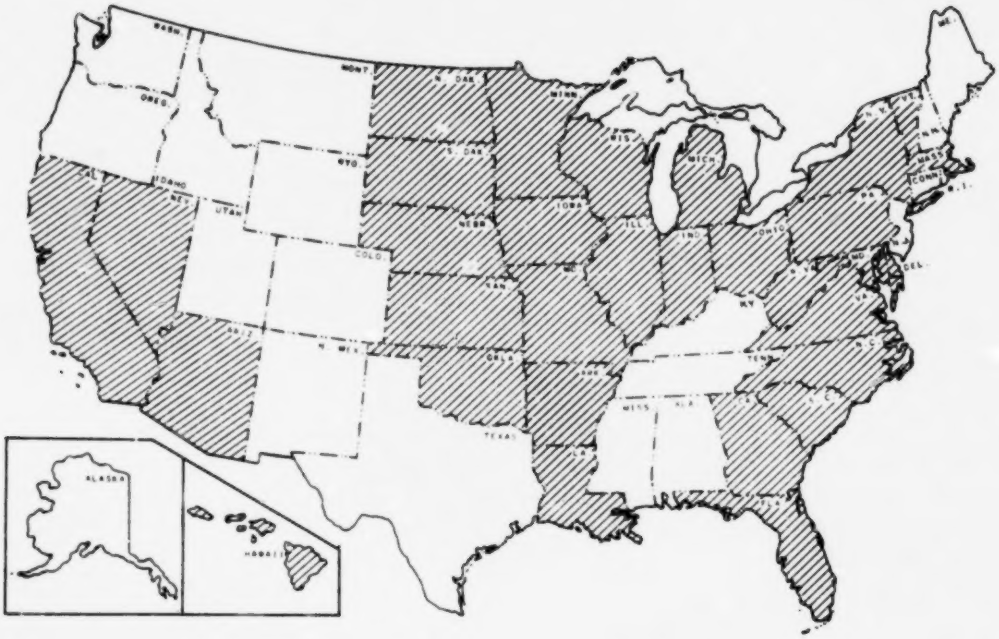
The problem of eutrophication of lakes and reservoirs has affected the decision making and adoption of nitrogen control regulations in the water quality standards of several states. This awareness is reflected by the number of states that have established clearly defined nitrogen control criteria in their water quality standards (Figure 4). Those states adopting some form of ammonia, nitrate, and total nitrogen control criteria are illustrated in Figure 5, 6, and 7, respectively.

Although localized studies have been made of the eutrophication of lakes and reservoirs, not until EPA initiated the National Eutrophication Survey (NES) in 1972 was a national survey begun. The primary purpose of NES is to identify and investigate those lakes and reservoirs in the contiguous United States in danger of eutrophication caused by nutrient inputs from municipal sewage treatment plant discharges. The magnitude of this effort made it necessary to conduct sampling by groups of states, with the eastern United States sampled first. In 1972, sampling began in 26 states east of the Mississippi River, including Minnesota. Effluent samples from 505 municipal waste treatment facilities serving slightly more than 6.3 million people in these states were analyzed for phosphorus and nitrogen (Table 5).

For wastewater treatment plant effluents, the median total nitrogen concentration was 15.0 mg/l, and the mean, 16.5 mg/l. When the plant data were separated into effluent concentrations for different types of treatment (Table 6), the highest total nitrogen concentrations were found in the primary treatment plant effluents whereas the lowest concentrations were observed in oxidation pond effluents. Also of interest is the fact that when these same data were presented on the basis of population served, the size of the treatment facility bore little relationship to the concentration of nitrogen in the effluent (Table 7).

One of the more direct measures of national concern in nitrogen control is the construction of municipal treatment facilities. The 10 EPA regional offices were surveyed (September 1973) to determine construction grant activity for implementation of nitrogen control technology (15). Details of this survey are presented in Table 8, with some updating to include activity from September 1973 to December 1974.

The states that have implemented some form of nitrogen control criteria in their water quality standards (nitrate, ammonia, or total nitrogen) and the states requiring nitrification or nitrogen removal in selected drainage basins are tabularized as follows (15)(16):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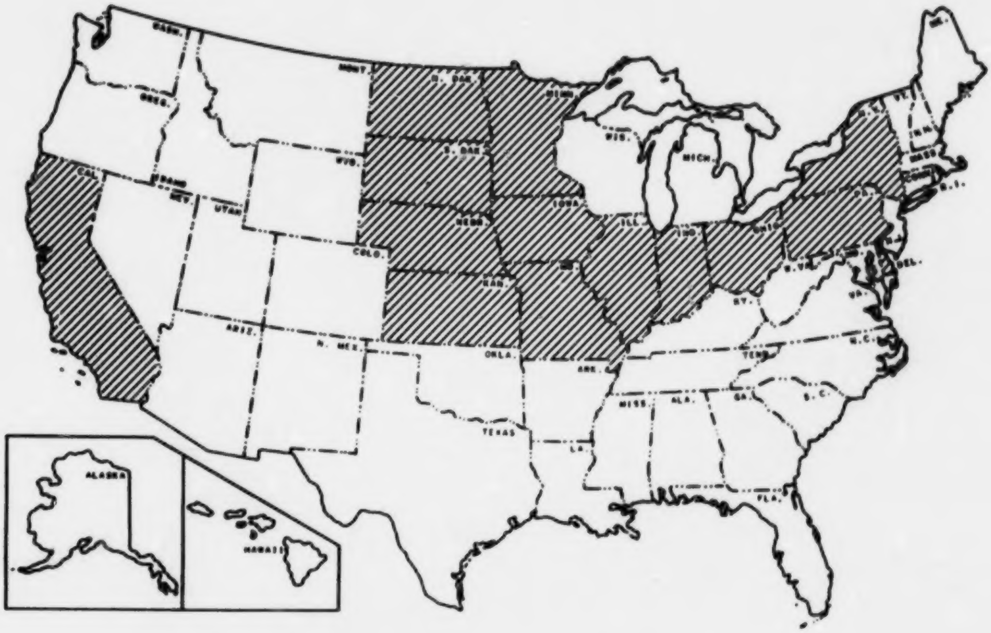
MINN.
IOWA
MO.
ARK.
LA.
WIS.
ILL.
MICH.
IND.
OHIO
KY.
TENN.
MISS.
ALA.
GA.
FLA.
S.C.
N.C.
VA.
W. VA.
PA.
N.Y.
MD.
DEL.
N.J.
CONN.
R.I.
MASS.
VT.
N.H.
ME.
ALASKA
HAWAII

Figure 4.. States with Water Quality Standards for Nitrogen (Ammonia, Nitrate, or Total Nitrogen). (16).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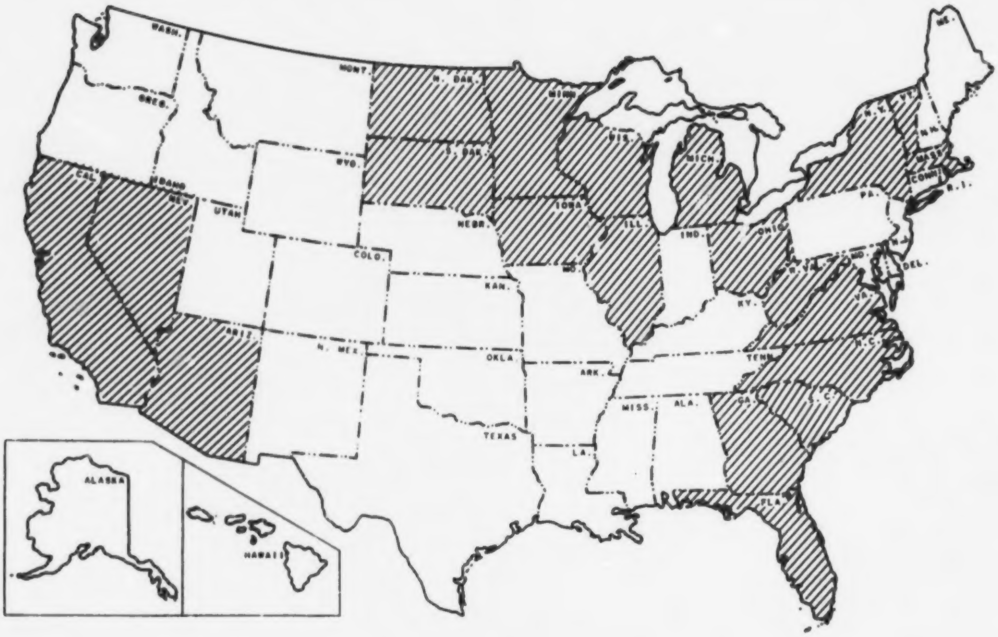
HAWAII

Figure 5. States with Water Quality Standards for Ammonia Nitrogen (16).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OKLA.
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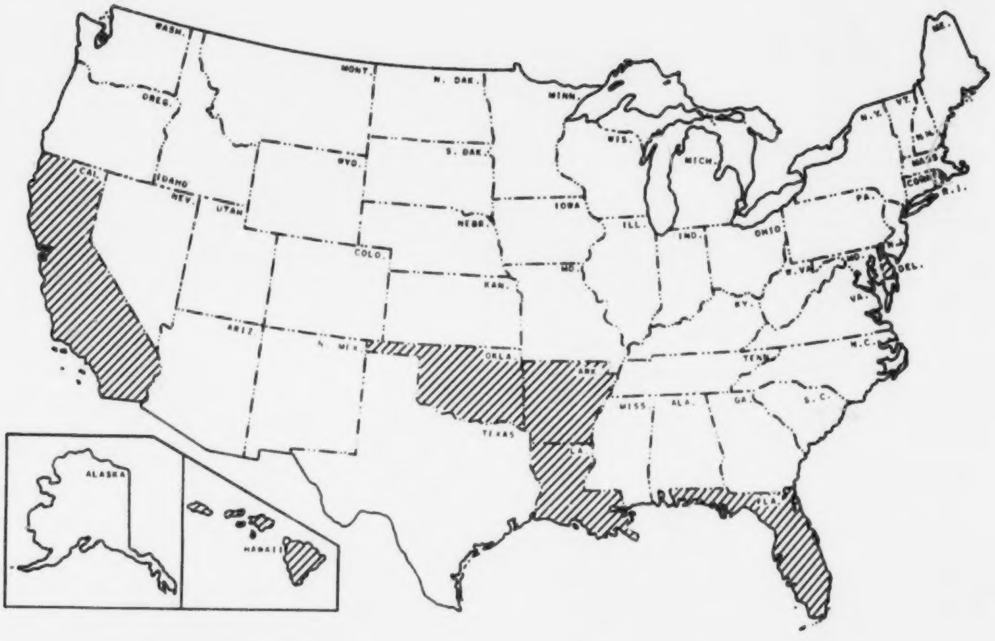
ALASKA
HAWAII

Figure 6. States with Water Quality Standards for Nitrate Nitrogen (16).


WASH.
MONT.
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N.Y.
VT.
N.H.
WIS.
S. DAK.
WYO.
MICH.
MASS.
CAL.
IDAHO
CONN.
R.I.
NEV.
UTAH
IOWA
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NEBR.
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N.J.
COLO.
MD.
MO.
W. VA.
DEL.
KAN.
VA.
KY.
ARIZ.
N. MEX.
OKLA.
N.C.
ARK.
TENN.
S.C.
MISS.
ALA.
GA.
TEXAS
LA.
FLA.
ALASKA
HAWAII

Figure 7. States with Water Quality Standards for Total Nitrogen (16).

Table 5. SUMMARY OF MUNICIPAL WASTEWATER TREATMENT PLANT EFFLUENT TOTAL NITROGEN (TN) AND PHOSPHORUS (TP) DATA FROM THE NATIONAL EUTROPHICATION SURVEY (14)

State	No. of Plants	Population Served	Median TP Load (lbs/capita/yr.)	Median TN Load (lbs/capita/yr.)	Median TP Conc. mg/l	Median TN Conc. mg/l
Alabama	25	930,000	2.2	4.8	4.8	10.5
Connecticut	14	123,800	3.5	10.0	6.0	16.9
Delaware	3	3,600	1.6	5.4	5.0	14.9
Florida	22	253,900	2.2	4.6	7.3	14.7
Georgia	27	450,600	3.8	5.2	[illegible].9	14.2
Illinois	20	72,400	2.0	6.3	5.3	11.8
Indiana	22	52,100	1.2	4.0	3.5	11.6
Kentucky	13	53,300	3.0	5.9	6.1	12.0
Maine	3	2,600	0.8	2.4	3.5	18.0
Maryland	5	9,800	1.8	5.6	8.8	16.8
Massachusetts	10	153,500	2.4	7.3	5.3	16.1
Michigan	41	444,500	2.3	8.0	4.4	17.3
Minnesota	43	1,710,000	2.9	7.5	7.1	19.1
Mississippi	8	16,000	1.9	3.5	7.2	12.6

Table 5. (Cont.)

State	No. of Plants	Population Served	Median TP Load (lbs/capita/yr.)	Median TN Load (lbs/capita/yr.)	Median TP Conc. mg/l	Median TN Conc. mg/l
New Hampshire	3	6,300	3.2	10.2	5.3	15.7
New Jersey	20	36,200	1.4	4.2	5.4	16.4
New York	40	253,400	1.7	6.7	3.4	13.5
North Carolina	18	98,300	3.3	6.3	6.8	12.6
Ohio	13	135,200	2.4	5.0	6.3	15.0
Pennsylvania	24	121,300	1.2	3.4	5.6	12.9
Rhode Island	2	8,700	2.6	8.0	4.9	11.9
South Carolina	36	289,300	2.4	5.3	7.0	13.0
Tennessee	35	821,200	2.1	4.2	7.6	11.9
Vermont	18	65,500	1.9	10.5	5.3	18.0
West Virginia	5	26,000	1.2	5.7	5.8	10.5
Wisconsin	14	192,000	2.6	8.6	5.5	18.2
Totals	505	6,330,000	2.2	6.0	5.9	15.0
Mean values			3.1	8.4	6.6	16.5

Table 6. SUMMARY OF TOTAL NITROGEN (TN) IN EFFLUENTS OF VARIOUS TYPES OF MUNICIPAL WASTEWATER TREATMENT PLANTS (14)

Treatment type	No. of plants	Median TN Conc. (mg/1)
Primary settling and digestion	53	21.0
Oxidation pond	46	10.9
Sand filter	11	12.8
Trickling filter	160	16.3
Activated sludge	180	14.3

Table 7. MUNICIPAL WASTEWATER TREATMENT PLANT EFFLUENT TOTAL PHOSPHORUS (TP) AND NITROGEN (TN) CONCENTRATIONS RELATED TO POPULATION SERVED (14)

Population served	No. of plants sampled	Mean TP conc. (mg/1)	Median TP conc. (mg/1)	Mean TN conc. (mg/1)	Median TN conc. (mg/1)
0-2,500	249	6.7	5.6	16.4	13.2
2,501-10,000	156	6.5	5.8	16.1	14.7
10,001-50,000	77	6.2	5.9	17.8	15.1
>50,000	23	6.3	5.4	17.0	15.7

Table 8. NITROGEN CONTROL TECHNOLOGY CONSTRUCTION ACTIVITY (15)

Site	Flow rate (mgd)	Phase	Planned completion date	Effluent standard	Process Description		
					Single-stage nitrification	Two-stage nitrification	Denitrification
REGION I:							
Marlborough, Mass.	5.5	Bidding	1975	0.3 mg/l as NH_3		X	
Pittsfield, Mass.	11.48	Design	1975	95% removal of NH_3-N		X	
Fitchburg, Mass.	12.4	Bidding	1975	0.3 mg/l as NH_3		X	
Attleboro, Mass.	8.61	Grant Appl.	1976	90% removal of NH_3-N		X	
North Attleboro, Mass. Plainville, Mass.	4.61	Grant Appl.	1976	90% removal of NH_3-N		X	
Taunton, Mass.	8.4	Design	1976	0.9 mg/l NH_3 (95% reduction)		X	
New Milford, Conn.	4.0	Design	1977	Ultimately 98% removal of NH_3-N in summer months	X		
REGION II:							
Chautauqua Co., N.Y.	4.1	Design	1978	1.5 mg/l NH_3-N		X	
Wellsville, N.Y.	1.5	Construction	1978	85% NOD removal		X	
Angola, N.Y.	4.5	Design	1975	95-100% removal of NH_3-N	X		
Canisteo, N.Y.	0.3	Complete	1973	2 mg/l of NH_3	X		
Amherst, N.Y.	24.0	Design	1975	Pending		X	
Cortland, N.Y.	10.0	Design	1975	Pending			
Roxbury, N.J.	1.0	Design	1975	0.01 mg/l NH_3-N, 12.0 mg/l NO_3-N	X		X

Table 8. (Cont.)

Site	Flow rate (mgd)	Phase	Planned completion date	Effluent standard	Process Description		
					Single-stage nitrification	Two-stage nitrification	Denitrification
Wayne, N.J.	8.0	Design	1975	75% reduction of NH_3-N	X		
Parsippany - Troy Hills, N.J.	16.0	Design	1975	95% removal of NOD		X	
Lincoln Park, N.J.	10.0	Design	1975	88% removal of NOD		X	
Princeton, N.J.	10.0	Construction	1978	1.0 mg/1 NH_3-N, 2.0 mg/1 Total-N		X	X
REGION III:							
Washington, D.C.	309.0	Design	1977-78	2.4 mg/1 of total N		X	X
Piscataway, Md.	30.0	Design	1977-78	85% removal of total N	X		X
Montgomery Co., Md.*	60.0	Design	1977-78	2.0 mg/1 of total N			
Upper Occoquan, Va.* +	22.5	Design	Unknown	1 mg/1 of unoxidized nitrogen			
Lower Potamac, Va.	36.0	Unknown	Unknown	1 mg/1 of unoxidized nitrogen		Unknown - under consideration	
Alexandria, Va.+	54.0	Unknown	Unknown	1 mg/1 of unoxidized nitrogen			
Arlington Co., Va.	30.0	Unknown	Unknown	1 mg/1 of unoxidized nitrogen		Unknown - under consideration	
Prince Georges' Co., Md.	15.0	Design	Unknown	2.0 mg/1 TKN	X		
Prince Georges' Co., Md.	7.5	Complete	1973-74	2.0 mg/1 TKN	X		
Prince Georges" Co., Md.	18.0	Unknown	Unknown	2.0 mg/1 TKN	X		

Table 8. (Cont.)

Site	Flow rate (mgd)	Phase	Planned completion date	Effluent standard	Process Decription		
					Single-stage nitrification	Two-stage nitrification	Denitrification
Arne Arundel Co., Md.**	3.0	Unknown	Unknown	2.0 mg/l TKN	X		
Bucks Co., Pa.	7.0	Design	1975	8.0 mg/l, total N			
Delaware Co., Pa.	4.0	Construction	1975	95% reduction of NH_3-N		X	
Carbon Co., Pa.	0.65	Construction	1975	4 mg/l of NH_3	X		
Allenton, Pa.	37.5	Design	1978	3.0 mg/l NH_3-N (7 day Avg, June 1 → Oct. 31) 6.0 mg/l NH_3-N (7 day Avg, Nov. 1 → May 31)		X	
REGION IV:							
Jefferson Co., Ala.	35.0	Construction	1976	95% reduction of NH_3-N		X	
Birmingham, Ala.	40.0	Design	1976	95% reduction of NH_3-N		X	
Jefferson Co., Ala.	10.0	Design	1976	95% reduction of NH_3-N		X	
Tampa, Fla.	60.0	Construction	1975	90% nitrogen removal		X	X
Hillsborough Co., Fla.	3.0	Complete	1974	3 mg/l total N as N		X	X
Altomonte Springs, Fla.	7.5	Design	1975	3 mg/l total N as N		X	X
Gainesville, Fla.*	7.5	Design	1975	No std - disposal to groundwater	X		X
Live Oak, Fla.	0.75	Design	Unknown	No std - disposal to	X		X
MacClenny, Fla.	0.50	Design	1975	Unknown	X		
Franklin, Tenn.	2.5	Design	Unknown	7 mg/l NH_3-N(max), 5 mg/l (avg)		X	

Table 8. (Cont.)

Site	Flow rate (mgd)	Phase	Planned completion date	Effluent standard	Process Description		
					Single-stage nitrification	Two-stage nitrification	Denitrification
Hazelhurst, Miss.	2.0	Design	Unknown	Unknown	X		
Kings Mountain, N.C.	4.0	Design	1975	30 mg/1 TOD	X		
Gastonia, N.C.	9.0	Design	1976	10 mg/1 TOD	X		
Marion, N.C.	6.0	Design	1976	60 mg/1 TOD	X		
Mount Holly, N.C.	2.0	Design	1975	20 mg/1 TOD	X		
Wilson, N.C.	12.0	Design	1975	10 mg/1 TOD		X	
Robersonville, N.C.	1.2	Design	1975	10 mg/1 TOD	X		
Bessemer City, N.C.	1.5	Design	Unknown	10 mg/1 TOD	X		
REGION V:							
Hamilton Co., Ohio	38.0	Construction	1977	7.4 mg/1 TKN (July-Oct.) 11.0 mg/1 TKN (other months)		X	
Jackson, Mich.	16.8	Complete	1975	Unknown	X		
Benton Harbor - St. Joseph, Mich.	13.0	Complete	1975	Unknown	X		
Alma, Mich.	2.5	Construction	1975	Unknown	X		
Lansing, Mich.	18.75	Construction	1975	Unknown	X		
Joliet, Ill.	10.0	Construction	1975	Unknown	X		
Gurnee, Ill.	17.25	Bidding	1976	2.5 mg/1 NH_3-N		X	
Waukegan, Ill.	19.9	Construction	1976	2.5 mg/1 NH_3-N		X	
Chicago, Ill.	30.0	Construction	1975	2.5 mg/1 NH_3-N	X		X

Table 8. (Cont.)

Site	Flow rate (mgd)	Phase	Planned completion date	Effluent standard	Process Description: Single-stage nitrification	Process Description: Two-stage nitrification	Process Description: Denitrification
Lima, Ohio	18.5	Construction	1977	2.5 mg/l (May-Oct.) 8.0 mg/l (Other months)	X		
Medina, Ohio	2.0	Construction	1976	2.5 mg/l NH_3-N		X	
Pontiac, Mich."	25.5	Construction	1976	Unknown			
Owosso, Mich.*	6.0	Bidding	1976	2.0 mg/l NH_3-N, May daily (May 1-Nov. 1)			
Rosemount, Minn.+	0.6	Complete	1975	1.0 mg/l NH_3-N			
Jackson, Mich.	17.0	Complete	1973	Unknown	X		
REGION VI:							
El Lago, Texas	0.5	Complete	1970	5 mg/l NH_3-N		X	X
REGION VII:							
Cherokee, Iowa	0.94	Complete	1974	2 mg/l NH_3-N		X	
Springfield, Mo.	24.0	Construction	1975	2 mg/l NH_3-N		X	
Mason City, Iowa	6.5	Construction	1975	3.5 mg/l NH_3-N		X	
Neosho, Mo.+	2.05	Complete	1974	Unknown			
Mt. Vernon, Mo.	1.0	Design	Unknown	Unknown	X		
REGION VIII:							
Estes Park, Colo.	1.5	Construction	1976	Unknown		X	X

Table 8. (Cont.)

Site	Flow rate (mgd)	Phase	Planned completion date	Effluent standard	Process Description		
					Single-stage nitrification	Two-stage nitrification	Denitrification
REGION IX:							
Central Contra Costa County, Calif.	30.0	Construction	1976	94% nitrogen removal	X		X
South Lake Tahoe, Calif."	7.5	Construction	1975	8 mg/1 NH_3-N (Max.)			
Hyperion (Los Angeles) Calif.	100.0	Complete	1973	3 mg/1 NH_3-N 5 mg/1 TKN	X		
Orange County, Calif."	15.0	Complete	1974	0 mg/1 NH_3-N, 1 mg/1 NO_3-N			
REGION X:							
No known activity							

Additional On-Site Processes

* Breakpoint Chlorination
+ Ion Exchange
" Stripping Tower

Water Quality Standards for Nitrate Nitrogen

Arizona
California
Florida
Georgia
Illinois
Iowa
Massachusetts
Michigan
Minnesota
Nevada
New York
North Carolina
North Dakota
Ohio
Rhode Island
South Carolina
South Dakota
Vermont
Virginia
West Virginia
Wisconsin

Water Quality Standards for Ammonia Nitrogen

California
Delaware
Illinois
Indiana
Iowa
Kansas
Minnesota
Missouri
Nebraska
New York
North Dakota
Ohio
Pennsylvania
South Dakota

Nitrification in Selected Drainage Basins

Alabama
Connecticut
Florida
Iowa
Maryland
Massachusetts
Michigan
Mississippi
Missouri
New Jersey
New York
North Carolina
Pennsylvania
Tennessee
Texas

Water Quality Standards for Total Nitrogen

Arkansas
California
Delaware
Florida
Hawaii
Louisiana
Oklahoma

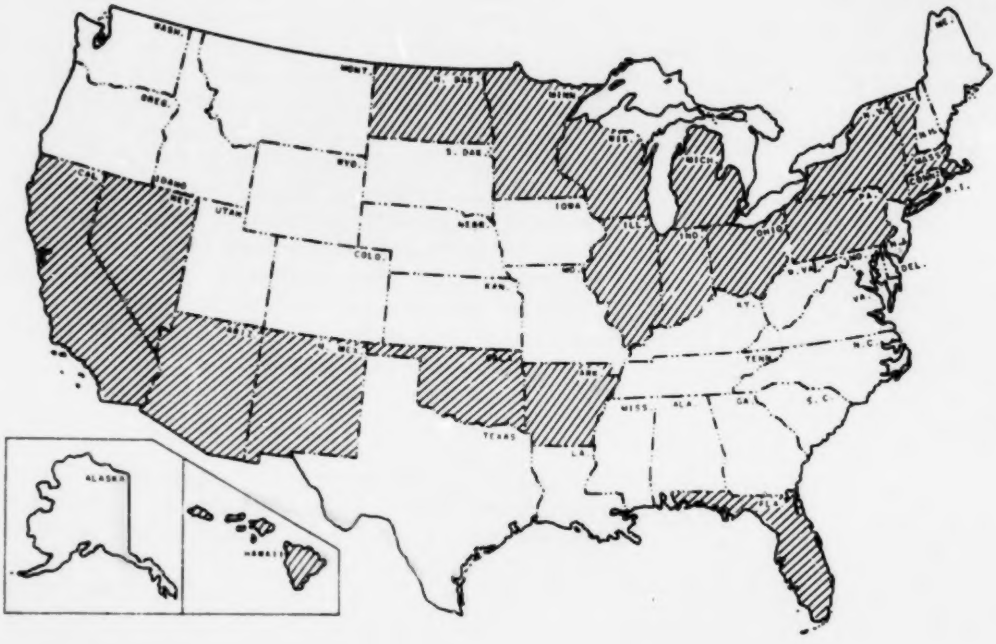
Nitrogen Removal in Selected Drainage Basins

California
Colorado
Florida
Maryland
Michigan
Minnesota
New Jersey
Pennsylvania
Virginia

As can be seen above, some states require either nitrification or denitrification even though a nitrogen standard has not been specified in the state water quality standards. Although application of nitrogen control has been implemented in several areas, the nitrate concentrations in our waterways show a generally worsening trend according to the National Water Quality Inventory, 1974 Report to Congress (17). In the 1968-1972 period, median concentrations of nitrate increased over those in the 1963-67 period in 75 percent of the reaches; in 24 percent of these reaches, the nitrate reference level exceeded the 0.9 mg/l needed to protect flowing streams from accelerated eutrophication.

Phosphorus Control

Discharges of phosphorus from municipal wastewater treatment plants are localized pollution sources that accelerate the eutrophication process in surface waters. With due consideration given to natural and runoff levels of phosphorus in surface waters, the reduction of point source discharges of phosphorus will affect the eutrophication process in most of these waters. This realization becomes apparent in the water quality standards of the 21 states that have adopted phosphorus control criteria (Figure 8).


WASH.
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MASS.
CAL.
IDAHO
NEV.
CONN.
R.I.
UTAH
IOWA
NEBR.
PA.
ILL.
IND.
OHIO
N.J.
COLO.
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W.VA.
KAN.
VA.
KY.
ARIZ.
N. MEX.
N.C.
OKLA.
TENN.
ARK.
S.C.
MISS.
ALA.
GA.
TEXAS
LA.
FLA.
ALASKA
HAWAII

Figure 8. States with Water Quality Standards for Phosphorus (16).

Individual plant data, summarized by state (Table 5), indicate median total plant effluent phosphorus concentrations ranged from 3.4 (New York) to 8.8 (Maryland) mg/l, with a median value for all samples of 5.9 mg/l. These phosphorus effluent data are further summarized by type of treatment (Table 9). From these data, it can be demonstrated that the treatment method has little effect on effluent phosphorus concentration unless phosphorus removal procedures are utilized. Also, as demonstrated in Table 7, the size of the treatment facility bore little relationship to the concentration of phosphorus in the effluent for which median values ranged from 5.4 to 5.9 mg/l.

Although there appears to be little difference in the phosphorus removal capability of the various types of wastewater treatment plants, there are differences in the form of the phosphorus discharged. Dissolved ortho-phosphorus, which is the form readily available for algal uptake, constituted 54 percent of the phosphorus discharged by primary treatment facilities whereas, ortho-phosphorus amounted to 80 percent of the total phosphorus discharged from the other treatment facilities. Utilizing phosphorus removal techniques, however, reduced the total phosphorus discharged by 50 percent. The results reported in the Water Quality Inventory Report on 22 major waterways further substantiate the need to incorporate phosphorus removal in wastewater treatment facilities. In that report, data indicate that up to 57 percent of the reaches surveyed exceed the EPA guideline for phosphorus (0.1 mg/l) established to guard against accelerated eutrophication in flowing streams. Furthermore, median phosphorus concentrations increased 82 percent in the period between 1968-1972 over the 1963-1967 period.

Wastewater Reuse

Increased municipal and industrial water requirements and expanded agriculture use place such a severe strain on limited water resources in certain areas of the United States that reuse is a necessity--e.g., in the Lower Colorado region, more water is used than is available naturally and in the Great Basin and Rio Grande regions, 60 percent of the average supply is used (18). Paralleled with overconsumption is the problem of water quality deterioration in many areas; this stresses the need for consideration of the potential use of properly treated wastewaters as an alternative means of meeting future water demands.

Presently, the volume of wastewater reused is small; in 1971, only 135 billion gallons (bg) of municipal wastewater treatment plant effluents was being directly reused, with the following distribution (19)(20):

Type	Volume (bg)	No. of Plants
Irrigation and agriculture	77	338
Industrial	54	14
Recreational	3	5
Nonpotable domestic	<1	1
Groundwater augmentation	<1	8

Table 9. SUMMARY OF PHOSPHORUS IN EFFLUENTS OF VARIOUS TYPES OF WASTEWATER TREATMENT PLANTS (14)

Type	No. of plants	Population served	Median dissolved O-P (mg/1)	Median total P (mg/1)
Primary settling and digestion	53	1,063,609	3.0	5.6
Oxidation pond	46	102,671	4.5	5.8
Sand filter	11	33,905	4.0	4.8
Trickling filter	160	1,634,794	4.6	6.4
Activated sludge	187	3,427,442	4.5	5.8
Treatment plants with phosphorus removal	16	227,773	1.7	2.5

This reuse is minimal considering that municipalities in 1970 used 9,850 bg of water and 7,670 bg or approximately 78 percent was returned as wastewater (18).

A 1971 survey of reuse identified 358 reuse sites within the United States; 209 of these sites were very small irrigation disposal operations (21). Geographically, about 95 percent of the reuse operations are located in the semi-arid Southwest (Table 10). The only current example of direct reuse for domestic purposes in the conterminous United States is the nonpotable domestic reuse program managed by the National Park Service at Grand Canyon National Park, that provides an average of 30,000 gpd of reused water. In Table 11 are listed the major, known, existing, and planned locations for domestic and recreational municipal wastewater reuse.

Priorities for reuse will depend to a large degree on how much demand is placed on fresh water supplies. Prediction of the national fresh water demands for the year 2020 by the U.S. Water Resources Council is categorized as follows (22):

Type	Volume (bgd)
Electric power (cooling)	411
Industrial	211
Irrigation	161
Municipal	74

By the year 2020, municipal demands will amount to only about 9 percent of the total water demand. Wastewater reuse will initially be limited to applications that do not involve human consumption and for source substitution thereby making available more of the existing supplies as sources of drinking water. However, technology is needed to apply wastewater reuse for potable purposes in present and future water-short areas.

Disinfection

In the past, the use of chlorine as a wastewater disinfectant has been nationally accepted. However, recent complaints and controversy over the deleterious effects of chlorine on the fish and other aquatic organisms have caused some states to impose requirements for maximum amounts of chlorine that can be discharged from municipal wastewater treatment plant effluents (Table 12). Very recent findings that chlorination cause formation of chlorinated organics, some of which are known carcinogens, places further concern on the use of this disinfectant. In addition, the following states have clearly defined toxicity requirements incorporated in their water quality standards:

Not to exceed 0.1 of the 96 hour TLm of fish	Kentucky, Alaska, Oklahoma, Indiana, West Virginia
Not to exceed 0.1 of the 48 hour TLm of fish	Georgia, Mississippi, Illinois

Due to widespread controls, concentrations of fecal coliform bacteria have decreased in up to 78 percent of the reaches in 22 major waterways of the Nation(17). This control of coliforms is evident in the State Water Quality Standards which are summarized in Table 13 for waters classified to be used

Table 10. GEOGRAPHICAL DISTRIBUTION OF REPORTED MUNICIPAL WASTEWATER REUSE FACILITIES (21)

STATE	NO. OF FACILITIES				
	Irrigation	Industrial	Recreation	Domestic	Total
Texas	144	5	0	0	149
California	134	1	3	0	138
Arizona	28	2	0	1	31
New Mexico	10	0	0	0	10
Colorado	5	1	1	0	7
Nevada	4	2	0	0	6
Michigan	1	1	0	0	2
Florida	2	0	0	0	2
Oklahoma	1	1	0	0	2
Washington	2	0	0	0	2
Missouri	2	0	0	0	2
Maryland	0	1	0	0	1
Kentucky	0	0	1	0	1
North Dakota	1	0	0	0	1
Indiana	1	0	0	0	1
Nebraska	1	0	0	0	1
Oregon	1	0	0	0	1
Utah	1	0	0	0	1
TOTALS	338	14	5	1	358

Table 11. DOMESTIC AND RECREATIONAL MUNICIPAL WASTEWATER REUSE FACILITIES (23)

Plant Location	Status	Size	Type of Reuse
Whittier Narrows, California	Operation	10 mgd	groundwater recharge
Escondido, California	Operation	100,000 gpd	recreation
Orange County, California	Operation	15 mgd	groundwater recharge
Santa Clara, California	Design	2.0 mgd	groundwater recharge
Palo Alto, California	Planned	2.0 mgd	groundwater recharge
Pomona, California	Design	10 mgd	groundwater recharge
Grand Canyon N.P., Arizona	Operation	30,000 gpd	domestic non-potable
Lake Tahoe, California	Operation	7.5 mgd	recreation
Santee, California	Operation	4.0 mgd	recreation
Lancaster, California	Operation	0.5 mgd	recreation
Denver, Colorado	Planned (1977)	1.0 mgd	potable reuse research
Upper Occoquan, Virginia	Planned (1977)	22 mgd	recreation
St. Croix, Virgin Islands	Operation	0.5 mgd	groundwater recharge
Nassau County, New York	Operation	5.0 mgd	groundwater recharge

Table 12. STATES WITH STRINGENT CHLORINE RESIDUAL LIMITS (10)

States (by Region)	Maximum Chlorine Residual (mg/l)
Region I	None
Region II	None
Region III	
Maryland	0.01 - 0.5*
Pennsylvania	0.2
Virginia	1.0 - 2.5*
Region IV	
Alabama	0.5
Kentucky	0.5
Mississippi	0.1 - 0.5*
North Carolina	0.0+
Tennessee	0.2 - 1.0*
Region V	None
Region VI	None
Region VII	None
Region VIII	
Colorado	0.5
Montana	0.5
North Dakota	0.5
South Dakota	0.5
Utah	0.5
Wyoming	0.5
Region IX	
California	0.0 - 0.1*
Region X	
Washington	0.5 - 1.0*

*Maximum amount varies according to stream classification.

+Wastewater discharging into trout streams must be dechlorinated.

Table 13. DISINFECTION - STATE WATER QUALITY STANDARDS FOR COLIFORMS(16)

PUBLIC WATER SUPPLY

Underground Water - No Treatment or Disinfection		Surface Water Disinfection Only				Surface Water Treatment Plus Disinfection			
Total Coliform	States Where Promulgated	Total Coliform	States Where Promulgated	Fecal Coliform	States Where Promulgated	Total Coliform	States Where Promulgated	Fecal Coliform	States Where Promulgated
*1/100 ml.	Minnesota	20/100 ml.	S. Carolina	10/100 ml.	Idaho, Minn.	100/100 ml.	Conn., Texas	20/100 ml.	Conn., Texas, Calif.
		50/100 ml.	N.Car., N.H., Mass., N.Y., Idaho, Wash., Alaska, Utah	20/100 ml.	R.I.	240/100 ml.	N.H., Wash.	100/100 ml.	N. Mexico
		100/100 ml.	Vt., Maine, Conn., R.I.	50/100 ml.	Georgia, Montana	300/100 ml.	Maine	200/100 ml.	Vt., R.I., Okla., Ark., N.Y., N.J., Kan., Neb., Ill., Mich., Ohio, Minn., W.Va., Pa., Va., Wyom., Mont., N.Dak., Colo., Hawaii
				200/100 ml.	Nevada	500/100 ml.	Vermont	1,000/100 ml.	N. Car., Nevada
						1,000/100 ml.	Florida, S.Car., Mass., R.I., Alaska, W.Va., N.Dak., Hawaii	2,000/100 ml.	Georgia, Ala., Miss., Louisiana
						5,000/100 ml.	Ky., N.Car., N.Y., Ind., Pa., S.Dak., Utah		
						10,000/100 ml.	Tenn., Louisiana		

*PHS Drinking Water Standard for Total Coliform is 1/100 ml.

RECREATION

Primary Contact				Secondary Contact			
Total Coliform	States Where Promulgated	Fecal Coliform	States Where Promulgated	Total Coliform	States Where Promulgated	Fecal Coliform	States Where Promulgated
240/100 ml.	Idaho	50/100 ml.	Idaho	1,000/100 ml.	N.H., Vt., Idaho, Calif.	200/100 ml.	Idaho, Calif.
1,000/100 ml.	Ky., Fla., Maine, Conn., Mass., R.I., Alaska, W.Va., Del., S. Dak., Utah, Hawaii, Calif.	100/100 ml.	N. Mexico	5,000/100 ml.	Maine, Conn., Mass., R.I.	1,000/100 ml.	N.Car., Conn., N.Mexico, Okla., Louisiana, Neb., Colo.
2,400/100 ml.	N.Y.	200/100 ml.	Ky., N.Car., Georgia, S.Car., Ala., Miss., Conn., R.I., Okla., Texas, Louisiana, N.Y., N.J., Iowa, Kan., Missouri, Neb., Ind., Minn., Wisc., W.Va., Va., S.Dak., Colo., Calif.	10,000/100 ml.	N.Y., Colo.	2,000/100 ml.	Texas, N.Y., Iowa, Kansas, Missouri
5,000/100 ml.	Tenn.	1,000/100 ml.	Tenn.				

Table 13. (Cont.)

Fish Propagation				Irrigation	
Shellfish Water				Spray or Surface Irrigation of Reclaimed Wastewater	
Total Coliform	States Where Promulgated	Fecal Coliform	States Where Promulgated	Total Coliform	State Where Promulgated
70/100 ml.	N.Car., Georgia., Fla., S.Car., Ala., Miss., Maine, Conn., Mass., R.I., Louisiana, N.Y., N.J., Wash., Ore., Alaska, Del., Va., Hawaii, Calif.	15/100 ml	S.Car., Ala., Maine, Conn., R.I., N.J., Alaska, Calif.	2.2/100 ml.	Calif.

for public water supply, recreation, fish propagation, and irrigation. A further illustration of coliform control is shown in Figure 9 which is indicative of the special concern placed on the concentration of coliforms found in waters used for the propagation of shellfish. The water quality criteria of these States for shellfish protection is 70 total coliform per 100 ml.

Lately, numerous concerns have been raised with respect to EPA's disinfection requirement as described in the definition of secondary treatment 40 CFR 133 (12). An EPA Task Force was, therefore, formed in January 1974 to review disinfection policy and the use of chlorine.

Although it is uncertain at this time what the final regulations will require, the concern clearly indicates the need for development and demonstration of alternate disinfection technology capable of meeting low fecal and total coliform standards without producing high chlorine or chlorinated byproduct residuals (24).

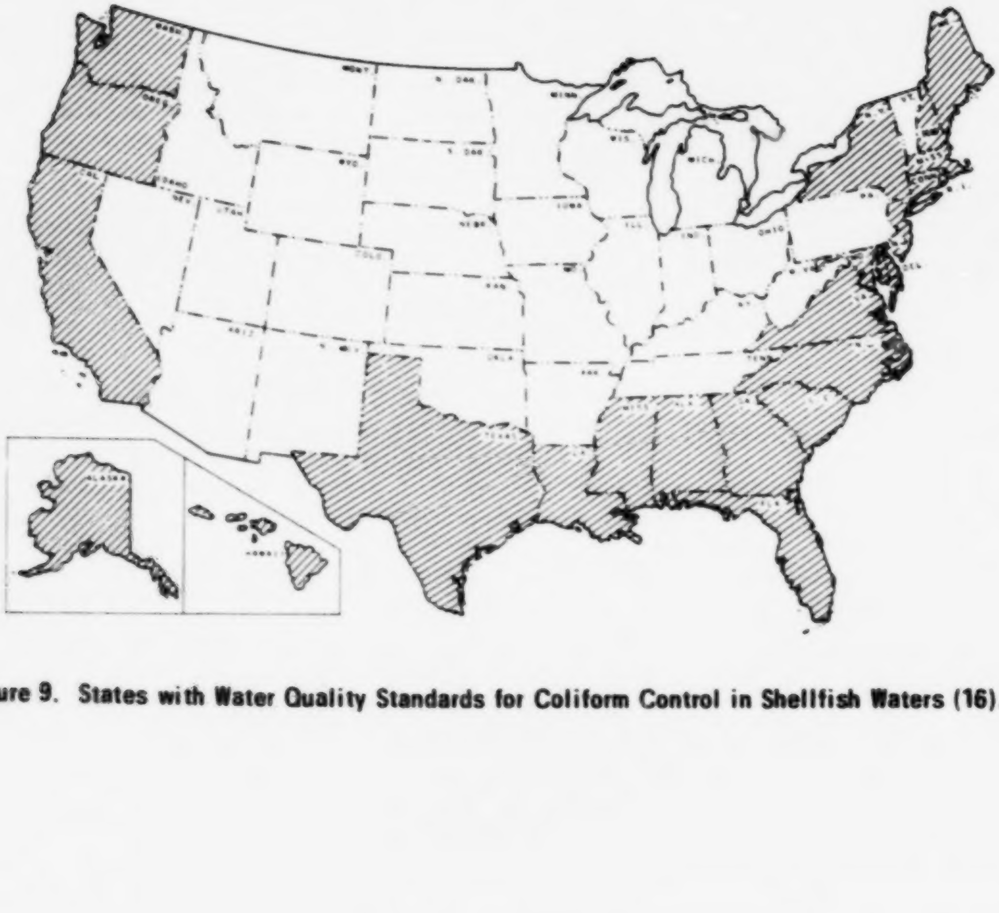


Figure 9. States with Water Quality Standards for Coliform Control in Shellfish Waters (16).

NEEDS SURVEY

The first real attempt to conduct a comprehensive survey on the needs of municipal wastewater treatment facilities was initiated in 1973 by an EPA task force with the help of the EPA Regional Offices and State officials. In June of 1973, the State Water Pollution Control Agencies mailed survey questionnaires supplied by EPA to municipal authorities. These questionnaires were completed, in most cases, by the local treatment authorities with the advice and assistance of State officials. Completed forms were then reviewed by the States, approved and sent to EPA. There were a total of 15,126 useable questionnaires completed for existing and projected facilities from an estimated 22,279 municipal waste facilities (25).

The portions of the survey that fall in the realm of the objectives of this report deal with a summary of the facilities required to meet:

1. Secondary treatment levels higher than EPA standards

and/or

2. Effluent limits more stringent than secondary treatment

Although some municipal authorities tended to exaggerate the cost of the facilities needed to meet projected standards in this survey, it is felt that the projected effluent quality required as reported in the survey questionnaire is more reliable than the associated costs.

Responses to the two previously mentioned portions of the survey regarding treatment needs greater than secondary effluent quality totaled 5,158. Of this total, 2,075 plants with an estimated total flow of about 4,000 mgd are now achieving effluent quality equal to or less than EPA's standard of secondary treatment for suspended solids while 4,218 plants with an estimated total flow of about 18,000 mgd will be required to achieve this effluent quality in the future. A summary of this data is presented in Table 14, which shows that 694 plants or 16 percent of the respondees predict that they will have to meet a suspended solids concentration of ≤ 5 mg/l. Somewhat alarming is the fact that 103 plants or 2.4 percent of the respondees predicted that their future suspended solids concentration will be greater than 30 mg/l.

A summary of the existing and projected BOD requirements is presented in Table 15. Projected effluent BOD ≤ 5 mg/l was reported for 834 plants or 19 percent of the responses. Here again, 93 plants or 2.1 percent of the respondees projected that they would not be required to meet the minimum secondary treatment standard for 30 mg/l of BOD.

Table 14. SUMMARY OF EFFLUENT QUALITY REQUIRED FOR MUNICIPAL WASTEWATER TREATMENT FACILITIES LOCATED ON WATER QUALITY LIMITED STREAM SEGMENTS - 1973 NEEDS SURVEY (8)

Suspended Solids

Suspended Solids (mg/l)	Number of Plants, Flow (mgd) 0-1		1-5		5-10		10-20		20-50		50-100		>100		Total Plants		Total Flow (mgd)	
	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P
0-5	226	486	25	110	1	44	3	29	0	16	0	4	0	5	255	694	255	2800
5-10	223	559	33	143	16	65	3	41	0	20	1	6	2	6	278	840	677	3699
10-15	235	210	54	89	11	40	6	24	7	14	1	6	0	0	314	383	812	2164
15-20	334	770	66	196	17	72	6	36	6	16	1	8	0	4	430	1102	916	3777
20-25	237	219	50	72	9	27	9	11	2	15	0	3	1	1	308	348	676	1607
25-30	400	617	54	113	20	50	8	27	6	29	1	10	1	5	490	851	1062	3807
>30	1317	56	226	20	79	11	40	11	31	2	10	1	10	2	1713	103	5557	703
TOTAL	2972	2917	508	743	153	309	75	179	52	112	14	38	14	23	3788	4321*	9955	18557

Flow (mgd)

E - Number of plants existing in 1973 for which treatment beyond secondary is required.

P - Number of plants existing in 1973 that projected they would have to meet effluent concentrations sufficient to achieve the 1990 effluent limitation levels.

*There were only 4,321 responses for suspended solids out of 5,158 total responses.

Table 15. SUMMARY OF EFFLUENT QUALITY REQUIRED FOR MUNICIPAL WASTEWATER TREATMENT FACILITIES LOCATED ON WATER QUALITY LIMITED STREAM SEGMENTS - 1973 NEEDS SURVEY (8)

BOD

BOD (mg/1)	Number of Plants														Total Plants		Total Flow (mgd)	
	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P
0-5	235	572	28	137	5	46	7	48	2	20	1	8	0	3	278	834	511	3492
5-10	282	515	46	155	19	70	7	42	6	21	0	10	1	1	361	814	876	3612
10-15	231	210	50	89	16	34	2	17	6	7	2	5	0	1	307	363	814	1678
15-20	400	796	71	196	24	74	13	37	9	29	1	3	0	1	518	1136	1237	3606
20-25	262	346	43	64	11	18	8	12	5	11	3	3	0	1	332	455	778	1444
25-30	345	455	59	93	15	45	8	26	4	19	0	8	1	6	432	652	865	3195
>30	1216	56	204	20	64	12	42	1	23	2	10	0	6	2	1565	93	4657	481
TOTAL	2971	2950	501	754	154	299	87	183	55	109	17	37	8	15	3793	4347*	9738	17508
	0-1		1-5		5-10		10-20		20-50		50-100		>100					

Flow (mgd)

E - Number of plants existing in 1973 for which treatment beyond secondary is required.

P - Number of plants existing in 1973 that projected they would have to meet effluent concentrations sufficient to achieve the 1990 effluent limitation levels.

*There were only 4,347 responses for BOD out of 5,158 total responses.

The existing and projected needs for nutrient removal including phosphorus, ammonia, and nitrate nitrogen are shown in Table 16. There were 1,167 plants which planned to oxidize or remove ammonia nitrogen, and 620 (53 percent) of them predicted they would have to meet an effluent concentration of ≤ 1 mg/l of ammonia nitrogen. Nitrate removal to ≤ 1 mg/l was planned by 78 plants; this constituted 44 percent of the plants which planned to effect nitrate removal. A projected effluent concentration of ≤ 1 mg/l of phosphorus was estimated by 780 plants which constituted 78 percent of the total plants planning phosphorus removal. Tables 17-19 present a detailed breakdown of the projected effluent concentrations of ammonia, nitrate, and phosphorus, as a function of plant flow. A cumulative distribution of the existing and projected effluent quality required for municipal wastewater treatment facilities located on water quality limited stream segments from the 1973 Needs Survey is shown in Figures 10-23.

Table 16. SUMMARY OF NUTRIENT REMOVAL FROM 1973 NEEDS SURVEY (8)

	Number of Plants		Total Flow (mgd)	
Nutrient removed	E	P	E	P
P	708	1,001	2,427	4,960
NH_3	564	1,167	2,243	5,162
NO_3	78	179	359	856

E - Number of plants existing in 1973 for which treatment beyond secondary is required.

P - Number of plants existing in 1973 that projected they would have to meet effluent concentrations sufficient to achieve the most stringent effluent limitations.

Table 17. SUMMARY OF EFFLUENT QUALITY REQUIRED FOR MUNICIPAL WASTEWATER TREATMENT FACILITIES LOCATED ON WATER QUALITY LIMITED STREAM SEGMENTS - 1973 NEEDS SURVEY (8)

Ammonia

NH_3 (mg/l)	Number of Plants														Total Plants		Total Flow (mgd)	
Flow (mgd)	0-1		1-5		5-10		10-20		20-50		50-100		>100					
	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P
0-1	17	390	4	110	3	57	0	34	0	22	0	7	0	0	24	620	40	2720
1-5	54	323	12	104	3	37	7	30	2	16	0	6	0	2	78	518	255	2355
5-10	61	7	16	2	7	0	5	0	3	0	1	0	0	0	93	9	384	11
10-15	106	4	37	2	16	0	3	0	8	1	3	0	0	0	173	7	850	45
15-20	69	2	18	0	15	0	6	0	1	0	0	0	0	0	109	2	328	1
>20	51	6	20	3	8	2	4	0	3	0	1	0	0	0	87	11	386	30
TOTAL	358	732	107	221	52	96	25	64	17	39	5	13	0	2	564	1167*	2243	5162

E - Number of plants existing in 1973 for which treatment beyond secondary is required.

P - Number of plants existing in 1973 that projected they would have to meet effluent concentrations sufficient to achieve the most stringent effluent limitations.

*There were 1,167 responses for ammonia out of 5,158 total responses.

Table 18. SUMMARY OF EFFLUENT QUALITY REQUIRED FOR MUNICIPAL WASTEWATER TREATMENT FACILITIES LOCATED ON WATER QUALITY LIMITED STREAM SEGMENTS - 1973 NEEDS SURVEY (8)

Nitrate

NO_3 (mg/l)	Number of Plants														Total Plants		Total Flow (mgd)	
Flow (mgd)	0-1		1-5		5-10		10-20		20-50		50-100		>100					
	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P
0-1	11	49	1	13	3	4	1	8	0	4	0	0	0	0	16	78	59	328
1-3	7	20	3	15	1	9	0	7	0	3	0	1	0	0	11	55	32	375
3-5	3	8	0	3	1	1	1	1	0	0	0	0	0	0	5	13	35	33
5-10	6	14	4	3	1	1	1	2	1	1	0	0	0	0	13	21	86	74
10-15	8	4	3	0	0	1	0	0	0	0	0	0	0	0	11	5	25	9
>15	12	3	6	2	2	1	0	0	2	1	0	0	0	0	22	7	122	37
TOTAL	47	98	17	36	8	17	3	18	3	9	0	1	0	0	78	179*	359	856

E - Number of plants existing in 1973 for which treatment beyond secondary is required.

P - Number of plants existing in 1973 that projected they would have to meet effluent concentrations sufficient to achieve the most stringent effluent limitations.

*There were only 179 responses for nitrate out of 5,158 total responses.

Table 19. SUMMARY OF EFFLUENT QUALITY REQUIRED FOR MUNICIPAL WASTEWATER TREATMENT FACILITIES LOCATED ON WATER QUALITY LIMITED STREAM SEGMENTS - 1973 NEEDS SURVEY (8)

Phosphorus

P (mg/1)	Number of Plants Flow (mgd) 0-1		1-5		5-10		10-20		20-50		50-100		>100		Total Plants		Total Flow (mgd)	
	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P
0-1	29	443	7	173	2	71	5	51	2	31	1	10	0	1	46	780	273	4041
1-5	79	115	31	37	14	10	9	15	8	3	0	3	1	0	142	183	778	783
5-10	244	16	53	5	23	2	13	3	5	1	1	0	0	0	339	27	940	104
10-15	83	1	12	1	11	0	0	1	3	0	0	0	0	0	109	3	272	15
15-20	21	1	4	2	2	0	1	0	0	0	0	0	0	0	28	3	50	7
>20	33	2	6	2	2	1	2	0	1	0	0	0	0	0	44	5	114	10
TOTAL	489	578	113	220	54	84	30	70	19	35	2	13	1	1	708	1001*	2427	4960

E - Number of plants existing in 1973 for which treatment beyond secondary is required.

P - Number of plants existing in 1973 that projected they would have to meet effluent concentrations sufficient to achieve the most stringent effluent limitations.

*There were only 1,001 responses for phosphorus out of 5,158 total responses.

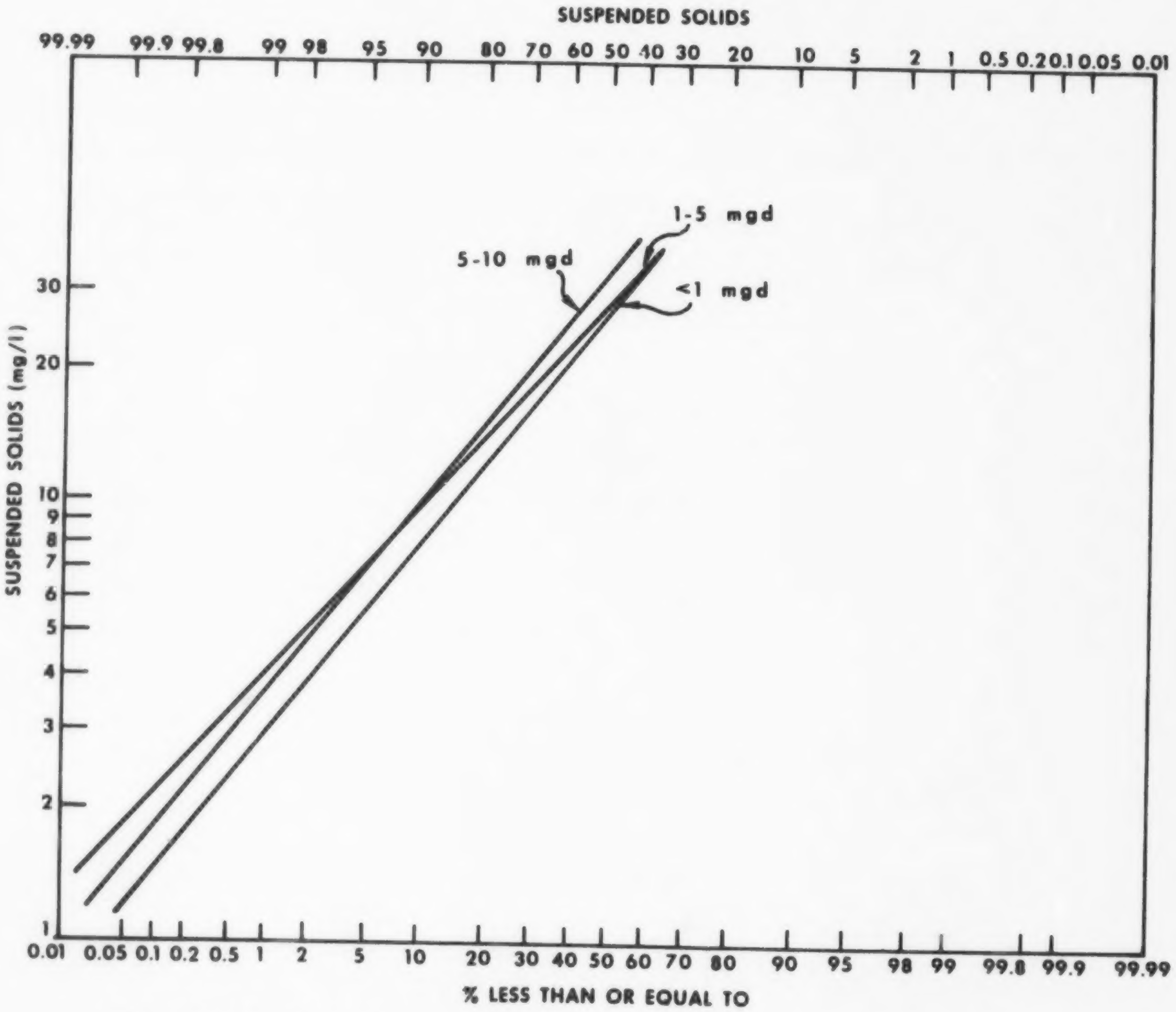


Figure 10. Cumulative Distribution of Existing Effluent Quality Required for Municipal Wastewater Treatment Facilities Located on Water Quality Limited Stream Segments - 1973 Needs Survey.

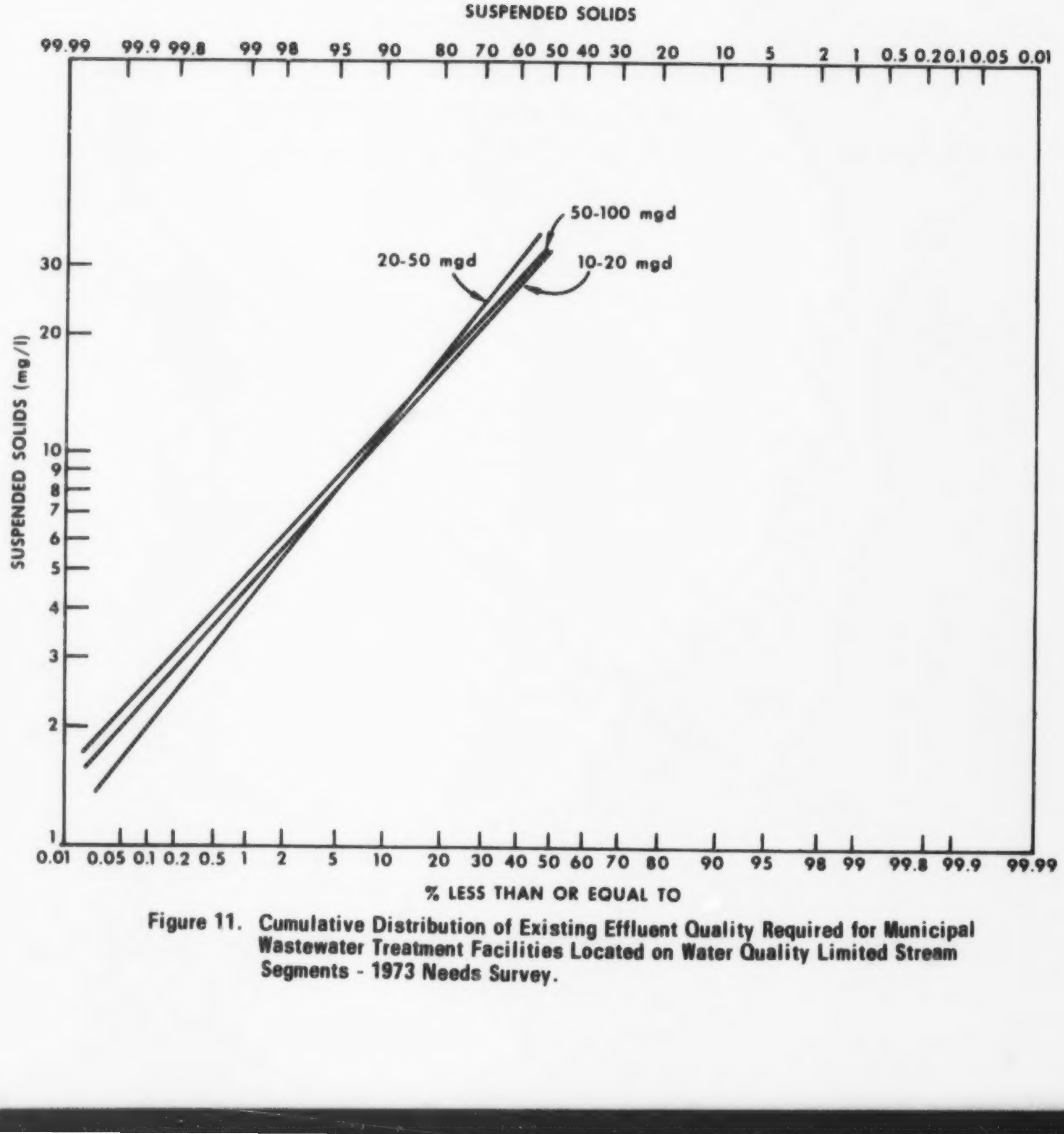


Figure 11. Cumulative Distribution of Existing Effluent Quality Required for Municipal Wastewater Treatment Facilities Located on Water Quality Limited Stream Segments - 1973 Needs Survey.

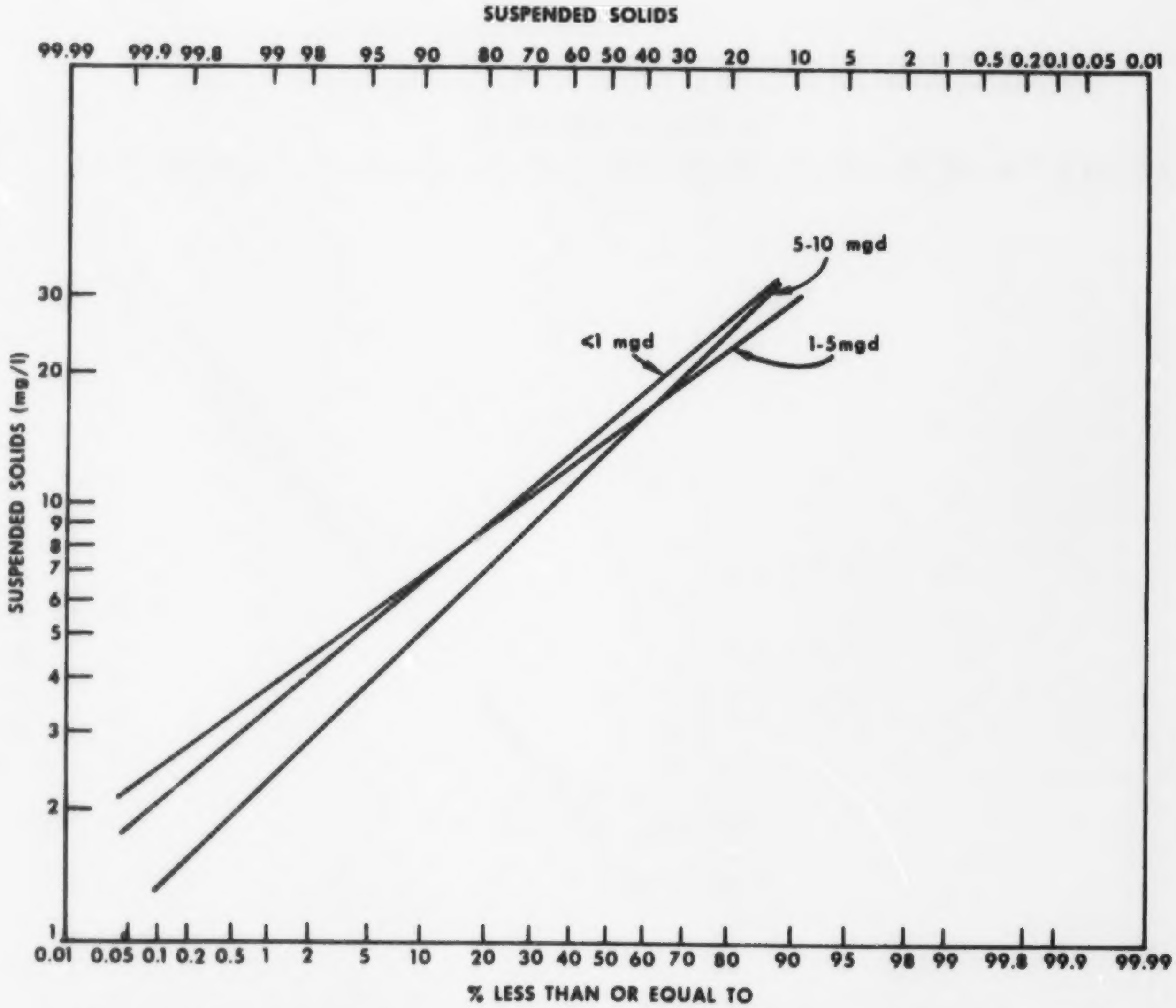


Figure 12. Cumulative Distribution of Projected Effluent Quality Required for Municipal Wastewater Treatment Facilities Located on Water Quality Limited Stream Segments - 1973 Needs Survey.

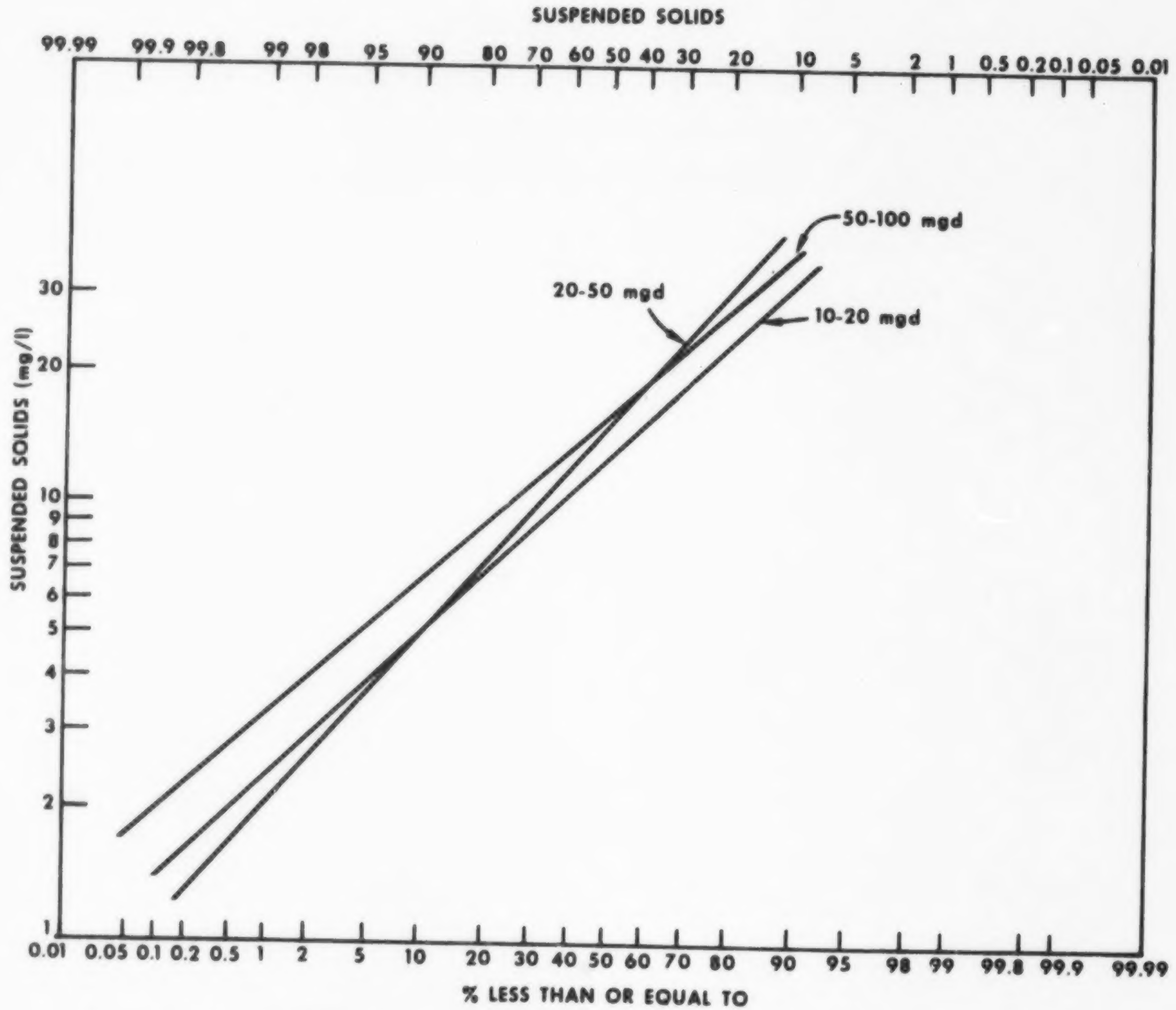


Figure 13. Cumulative Distribution of Projected Effluent Quality Required for Municipal Wastewater Treatment Facilities Located on Water Quality Limited Stream Segments - 1973 Needs Survey.

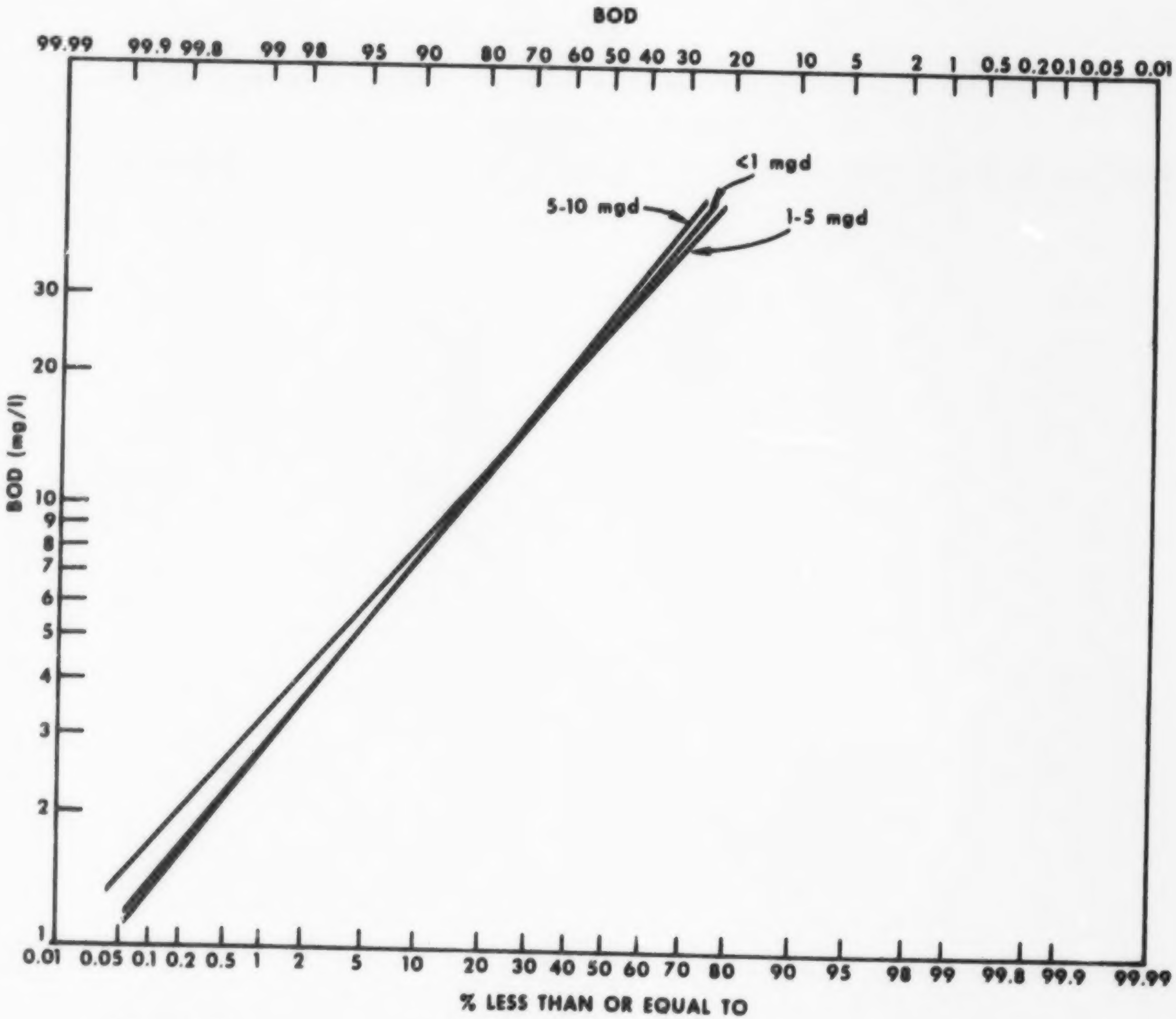


Figure 14. Cumulative Distribution of Existing Effluent Quality Required for Municipal Wastewater Treatment Facilities Located on Water Quality Limited Stream Segments - 1973 Needs Survey.

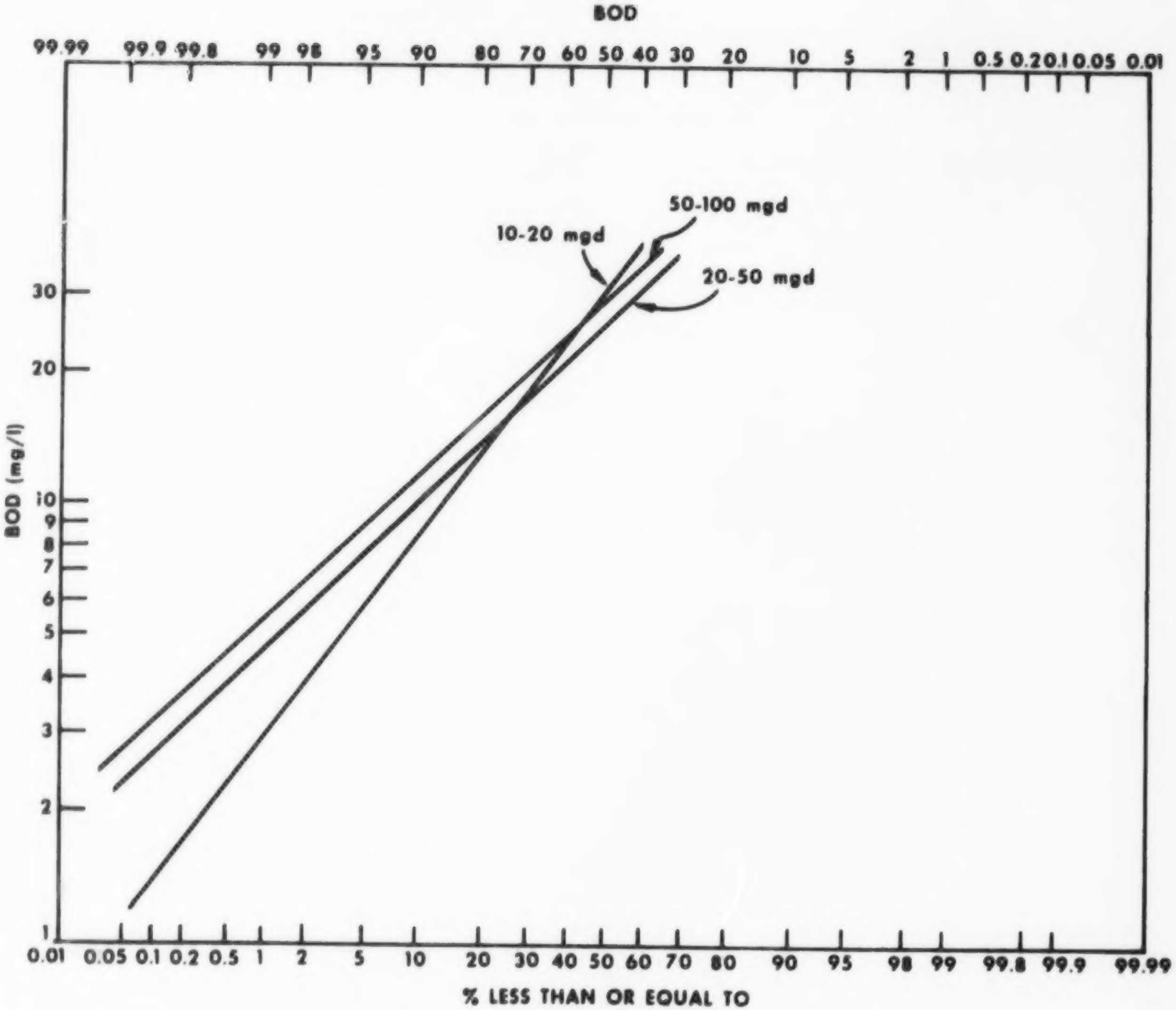


Figure 15. Cumulative Distribution of Existing Effluent Quality Required for Municipal Wastewater Treatment Facilities Located on Water Quality Limited Stream Segments - 1973 Needs Survey.

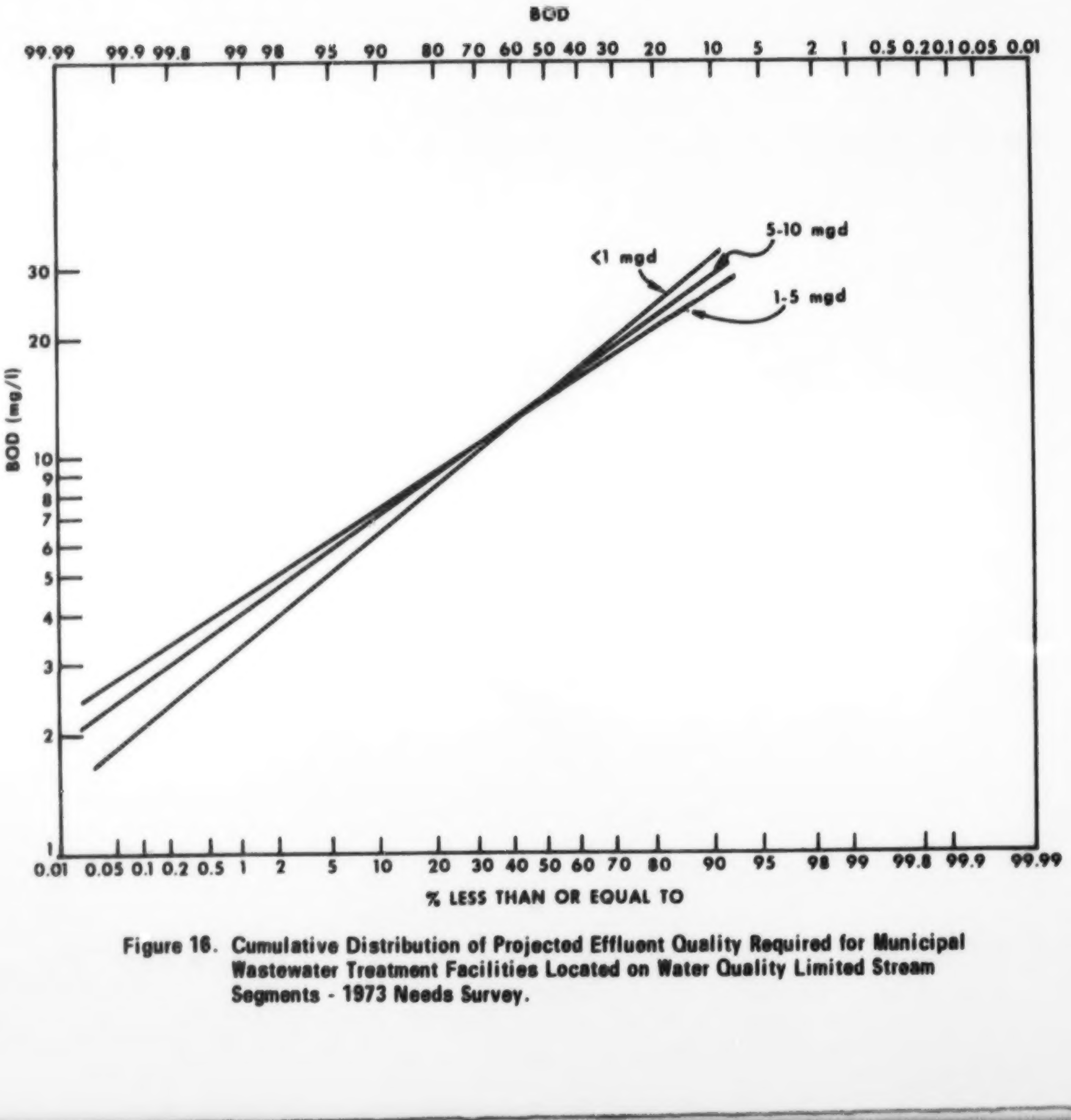


Figure 16. Cumulative Distribution of Projected Effluent Quality Required for Municipal Wastewater Treatment Facilities Located on Water Quality Limited Stream Segments - 1973 Needs Survey.

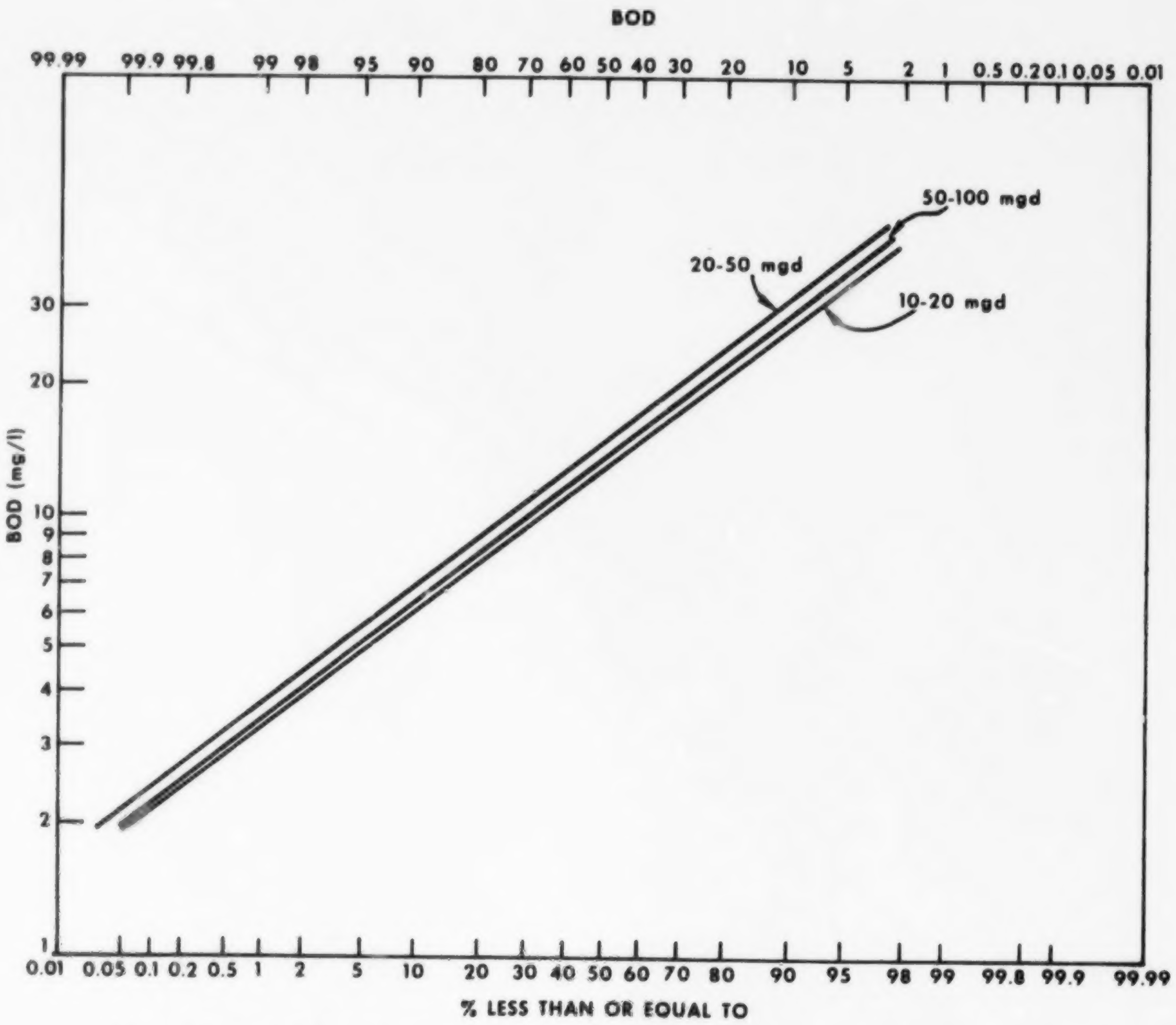


Figure 17. Cumulative Distribution of Projected Effluent Quality Required for Municipal Wastewater Treatment Facilities Located on Water Quality Limited Stream Segments - 1973 Needs Survey.

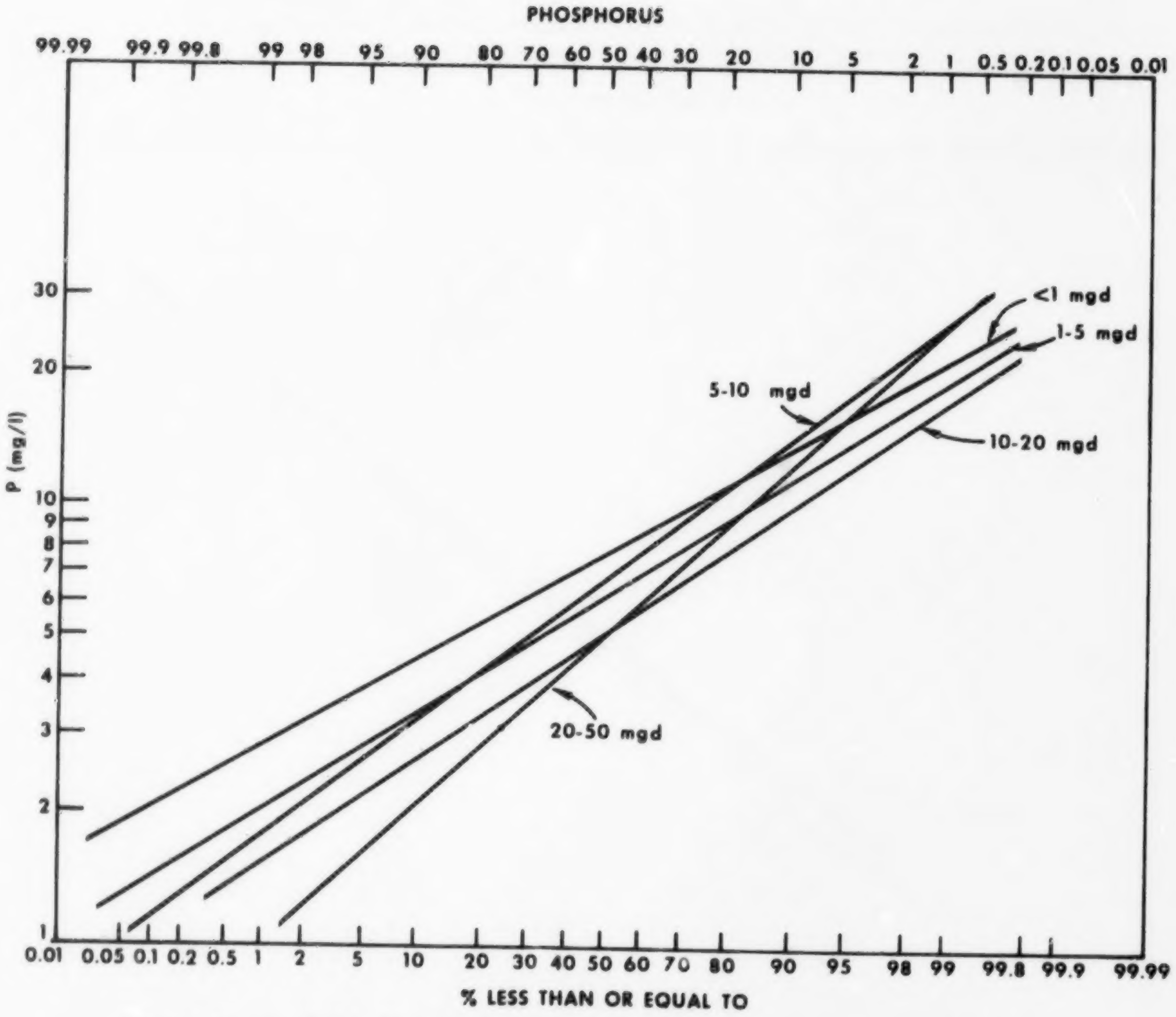


Figure 18. Cumulative Distribution of Existing Effluent Quality Required for Municipal Wastewater Treatment Facilities Located on Water Quality Limited Stream Segments - 1973 Needs Survey.

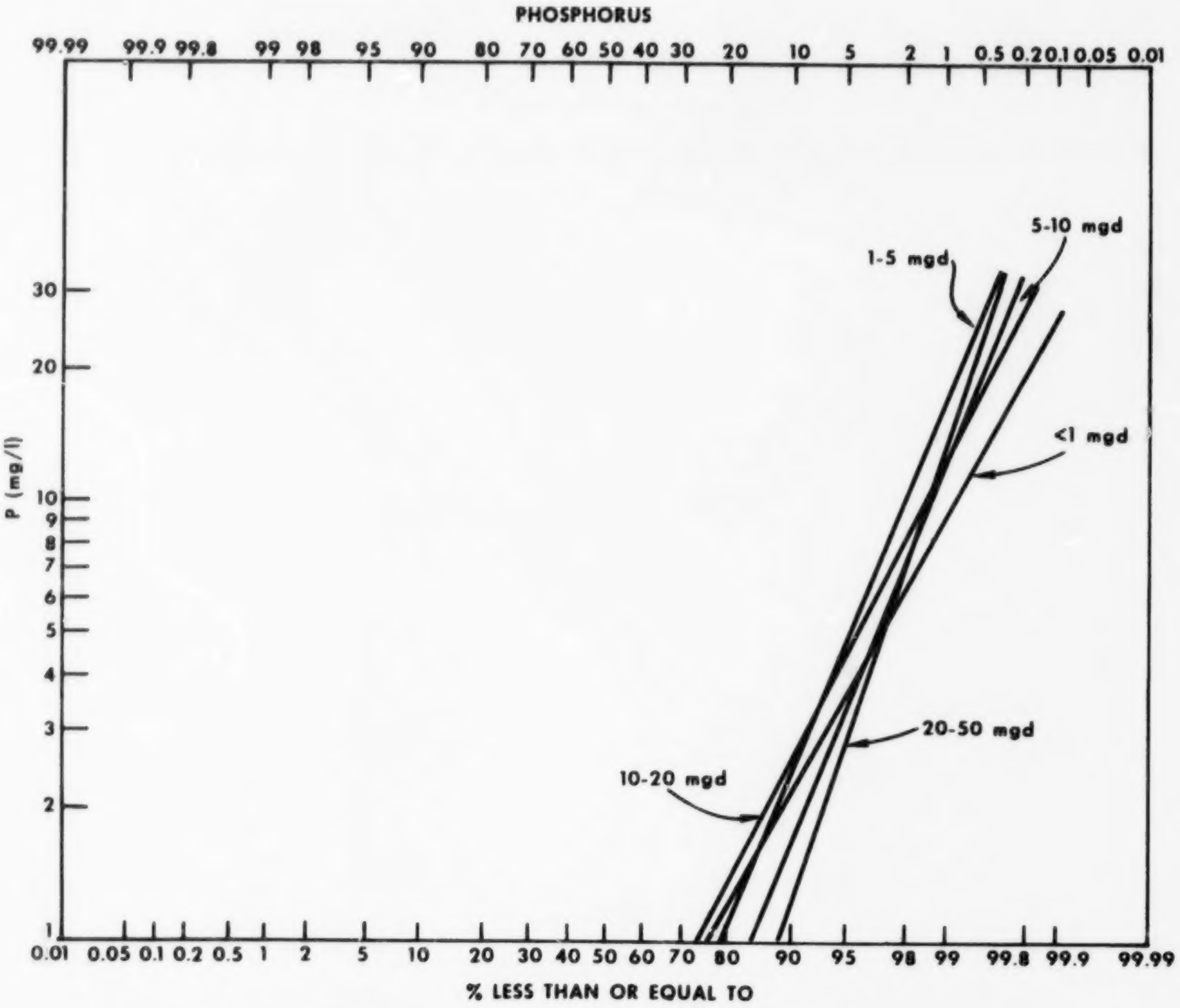


Figure 19. Cumulative Distribution of Projected Effluent Quality Required for Municipal Wastewater Treatment Facilities Located on Water Quality Limited Stream Segments - 1973 Needs Survey.

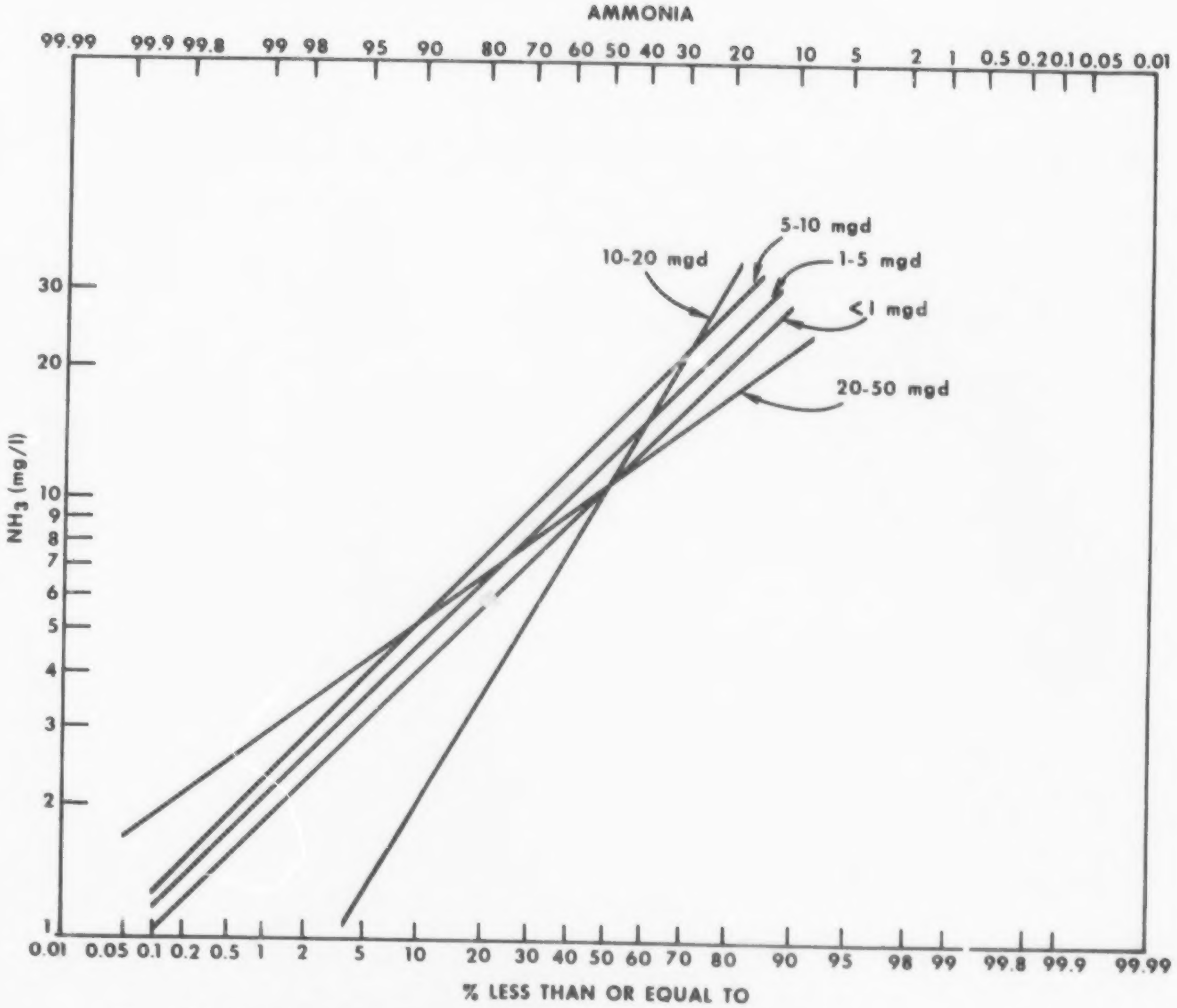


Figure 20. Cumulative Distribution of Existing Effluent Quality Required for Municipal Wastewater Treatment Facilities Located on Water Quality Limited Stream Segments - 1973 Needs Survey.

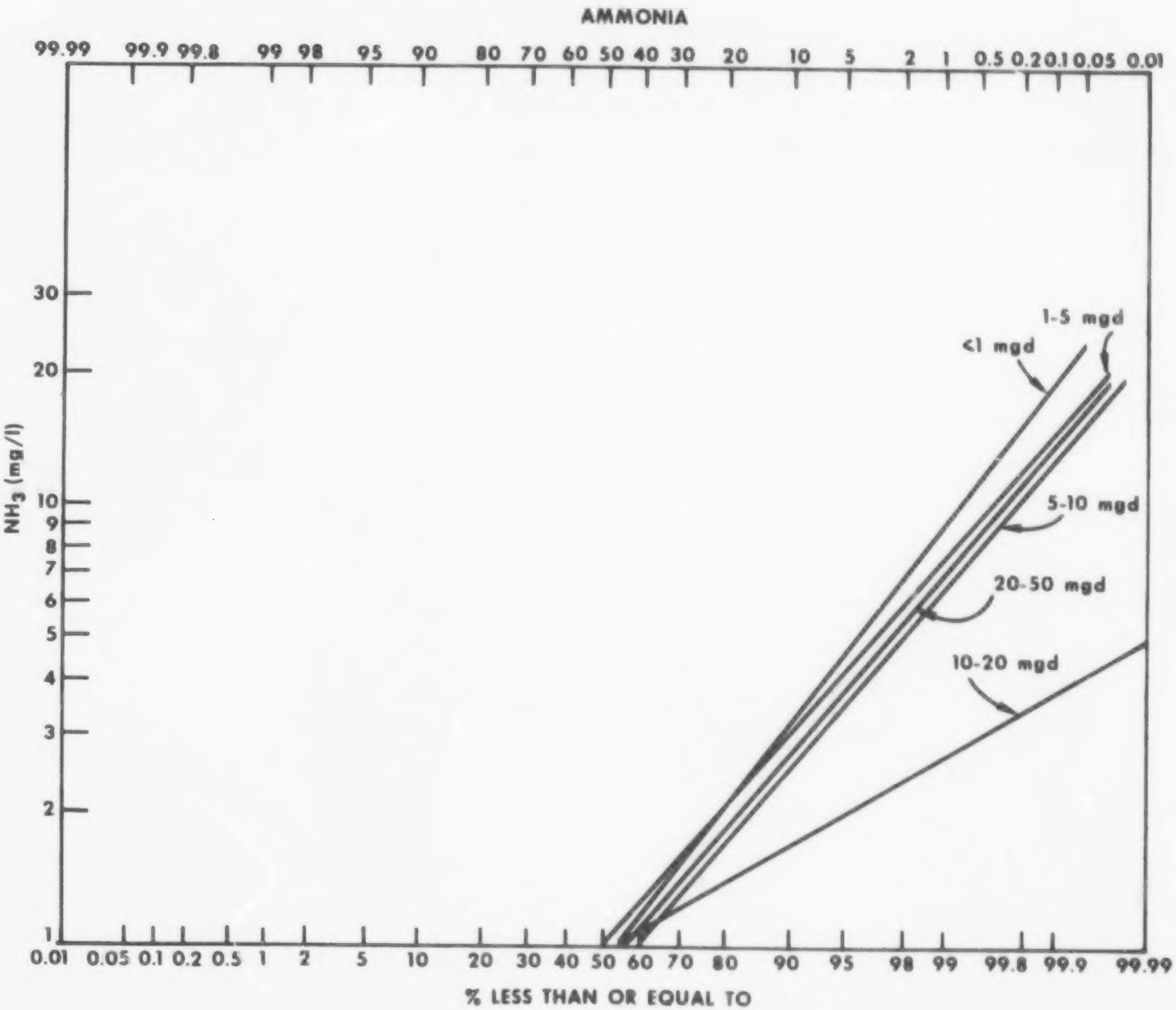


Figure 21. Cumulative Distribution of Projected Effluent Quality Required for Municipal Wastewater Treatment Facilities Located on Water Quality Limited Stream Segments - 1973 Needs Survey.

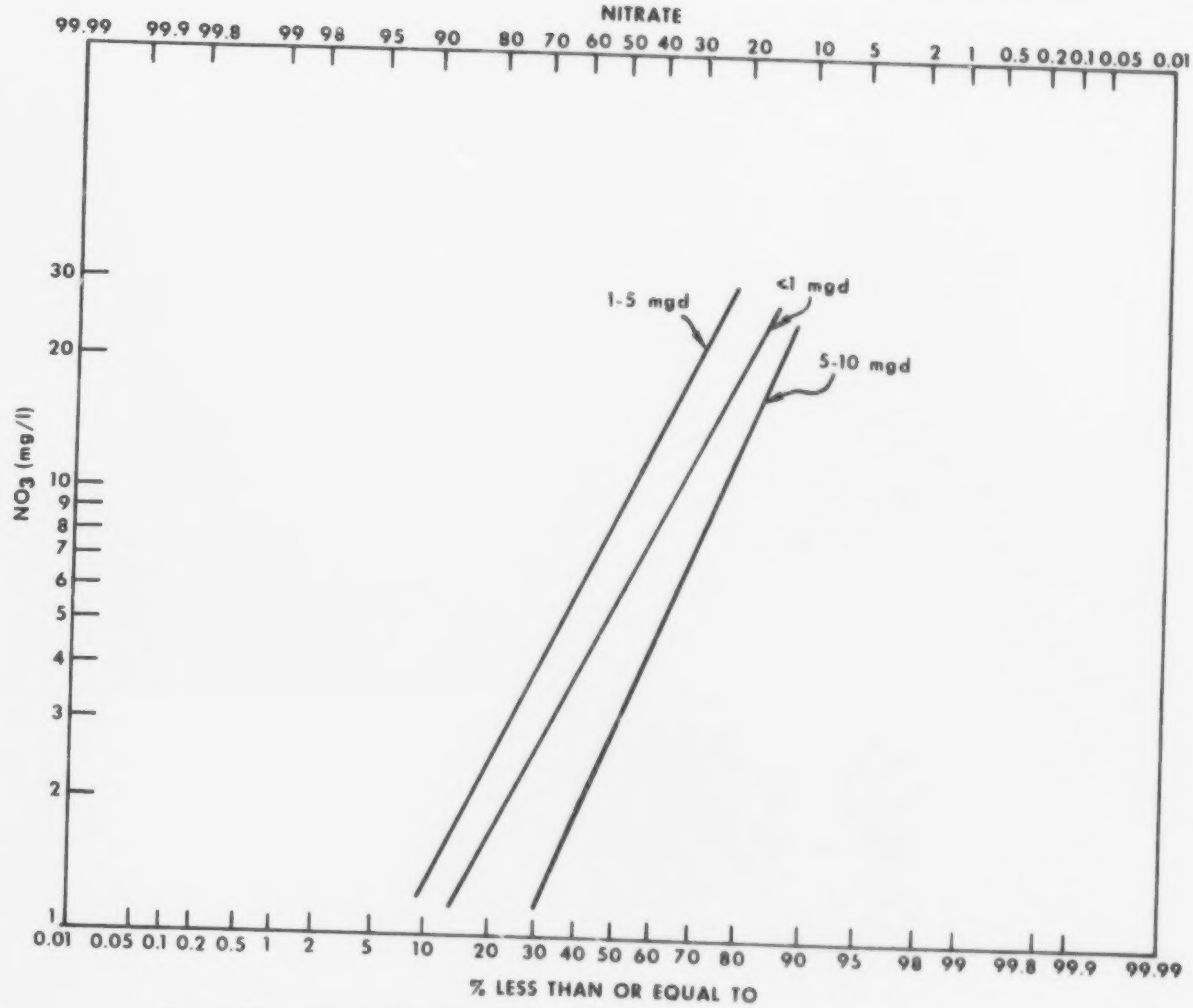


Figure 22. Cumulative Distribution of Existing Effluent Quality Required for Municipal Wastewater Treatment Facilities Located on Water Quality Limited Stream Segments - 1973 Needs Survey.

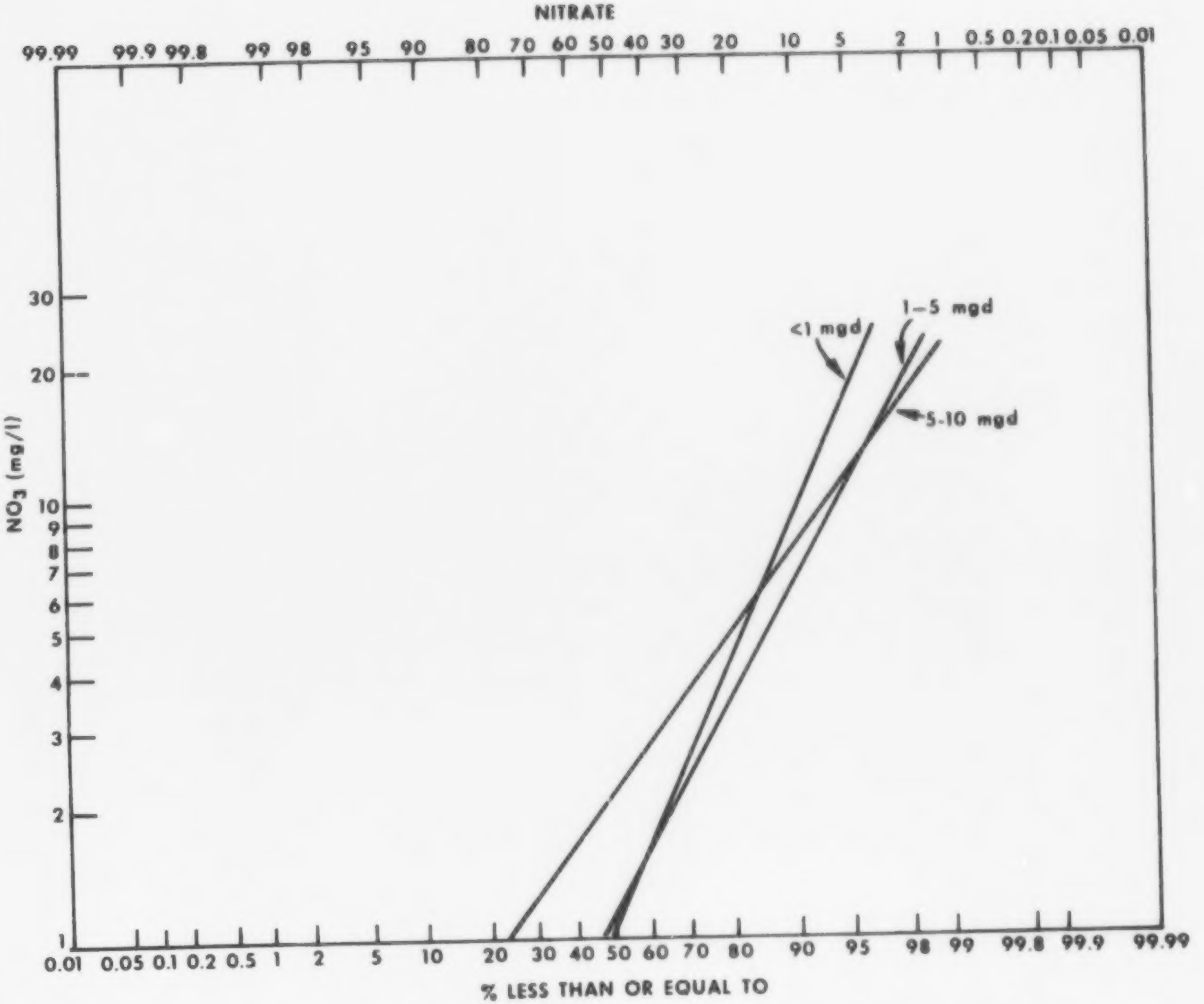


Figure 23. Cumulative Distribution of Projected Effluent Quality Required for Municipal Wastewater Treatment Facilities Located on Water Quality Limited Stream Segments - 1973 Needs Survey.

EXISTING AND PROJECTED TECHNOLOGY TO MEET WATER QUALITY GOALS

CURRENT IN-GROUND TECHNOLOGY

Information contained in the August 1974 Municipal Wastewater Facilities Inventory has been extracted for primary, secondary, and tertiary treatment plants. The number of plants by type of treatment and flow is summarized in Table 20, which shows that only 4.2 percent of the plants were employing tertiary treatment while 82.5 percent had secondary treatment and 13.3 percent had primary treatment. There were a total of 22,279 plants involved in the inventory serving a population of 156×10^6 people, as shown in Figure 24. However, 2,734 plants were listed in undefined categories (Figure 25) leaving a total of 19,545 plants to summarize (Table 20).

Figures 26-28 show the total plant distribution versus flow for primary, secondary, and tertiary treatment respectively. Figures 29-38 illustrate the distribution of 10 categories within secondary treatment ranging from activated sludge to land application.

Since there has been concern expressed over wastewater being discharged into the ocean, a further breakdown of the 1974 Municipal Wastewater Facilities Inventory was performed. The 2,909 municipal wastewater treatment plants employing this practice served a population of approximately 55 million people (Table 21).

PROJECTION OF NEEDED TECHNOLOGY

Projection Based on Waste Load Allocations

At this time, it is impossible to project what technology will be needed to meet the goals of PL 92-500 based on the available waste load allocation data. As shown previously only 48 (out of a total of 620) 303(e) basin plans had been approved by EPA, as of December 1, 1974 (7). Many of the approved 303(e) plans are unavailable from the Regional offices because of unresolved issues between EPA and the respective state offices or regional planning authorities who prepared the plans. Only six of the 48 approved plans were available for inclusion in this report, and data concerning them are summarized in Tables 22 and 23. There is little, if any, correlation with the data collected during the Needs Survey (Tables 14 and 15) because of the extremely small sample of 303(e) basin plans that were available.

Another possible data base that was explored in the preparation of this report was the information contained in NPDES Permits. As shown in Table 1, 85 percent of the major municipal permits and 61 percent of the minor permits had been issued through December 31, 1974. These permits have not been

Table 20. SUMMARY OF MUNICIPAL WASTE FACILITIES AUGUST 1974 INVENTORY (25)

Flow, mgd	Primary	Secondary	Tertiary	Total No. of Plants
0-0.5	1,395	11,524	666	13,585
0.5-1.0	203	1,016	38	1,257
1.0-5.0	289	1,293	58	1,640
5.0-10.0	56	198	6	260
10.0-20.0	46	96	3	145
20.0-50.0	20	57	1	78
50.0-100.0	14	18	1	33
over 100.0	9	17	1	27
unknown	560	1,914	46	2,520
TOTAL	2,592	16,133	820	19,545

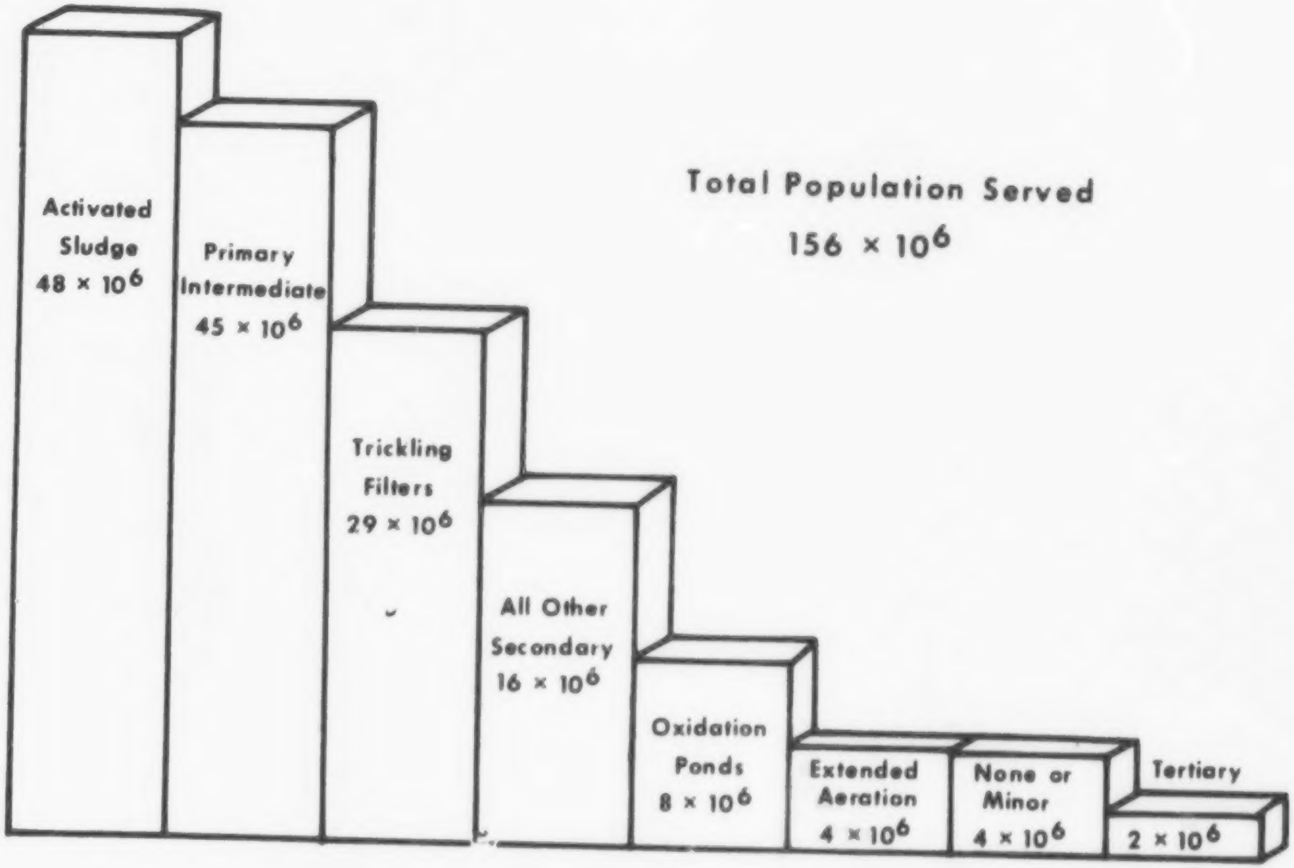
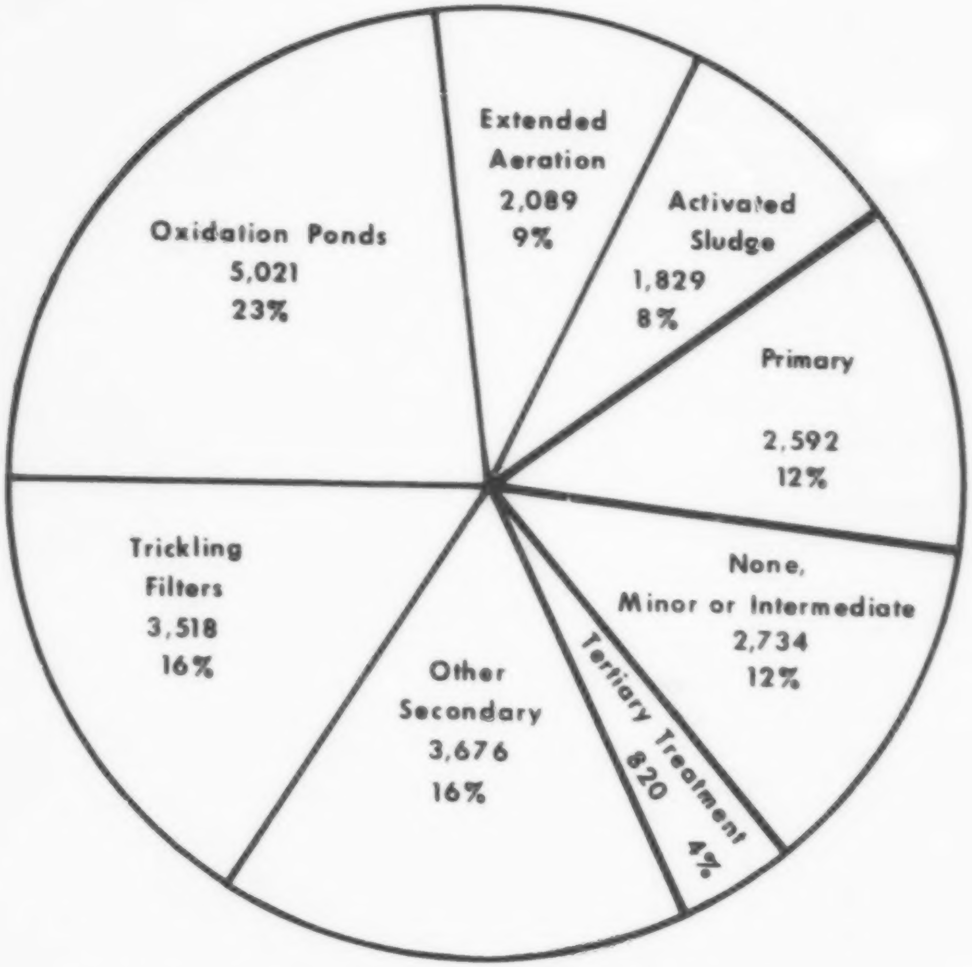


Figure 24. National Treatment Classification by Population. Municipal Waste Facilities August 1974 Inventory.



TOTAL NUMBER OF FACILITIES = 22,279

Figure 25. National Distribution of Municipal Wastewater Treatment Facilities. Municipal Waste Facilities August 1974 Inventory.

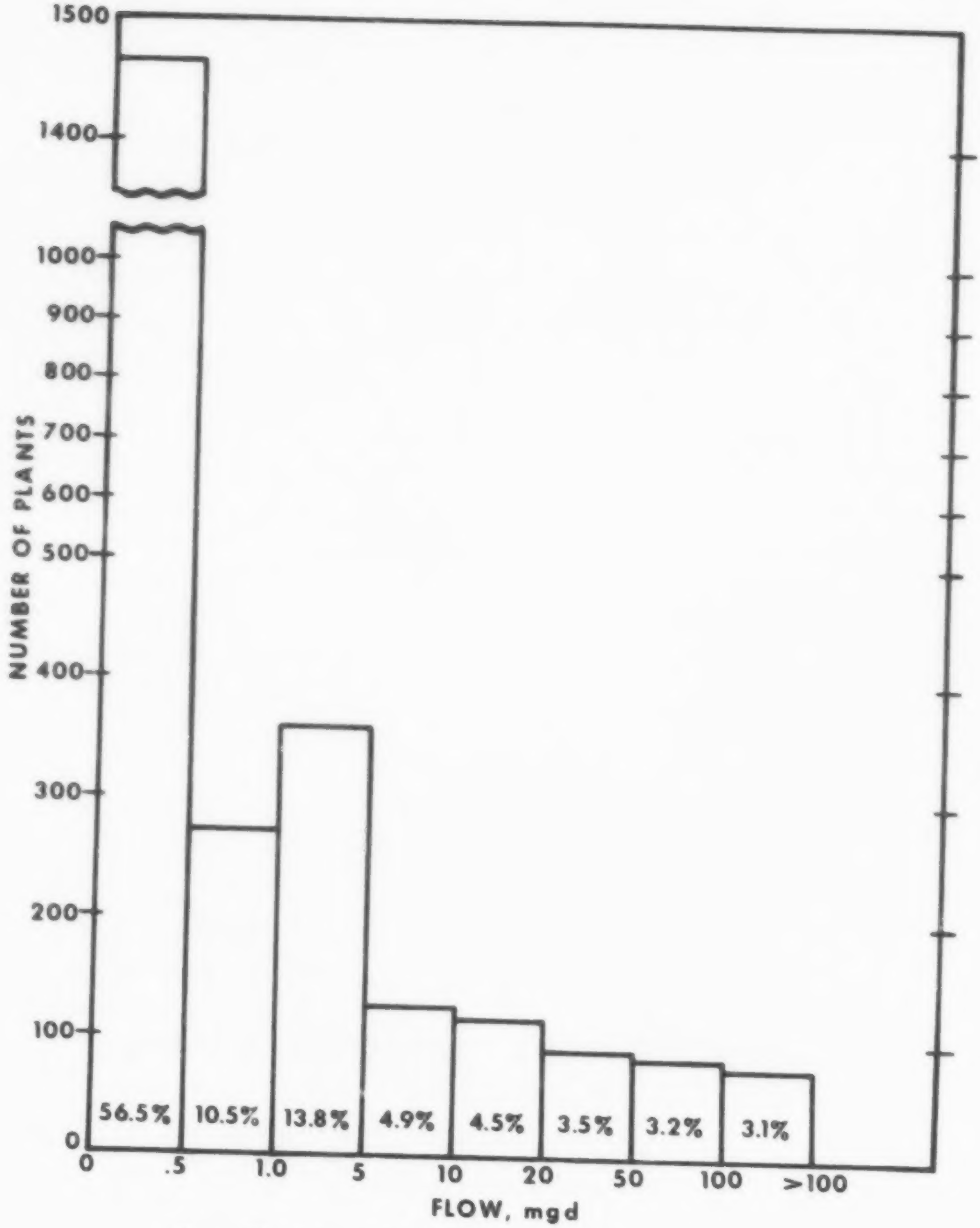


Figure 26. Primary Treatment Distribution.
Municipal Waste Facilities August 1974 Inventory.

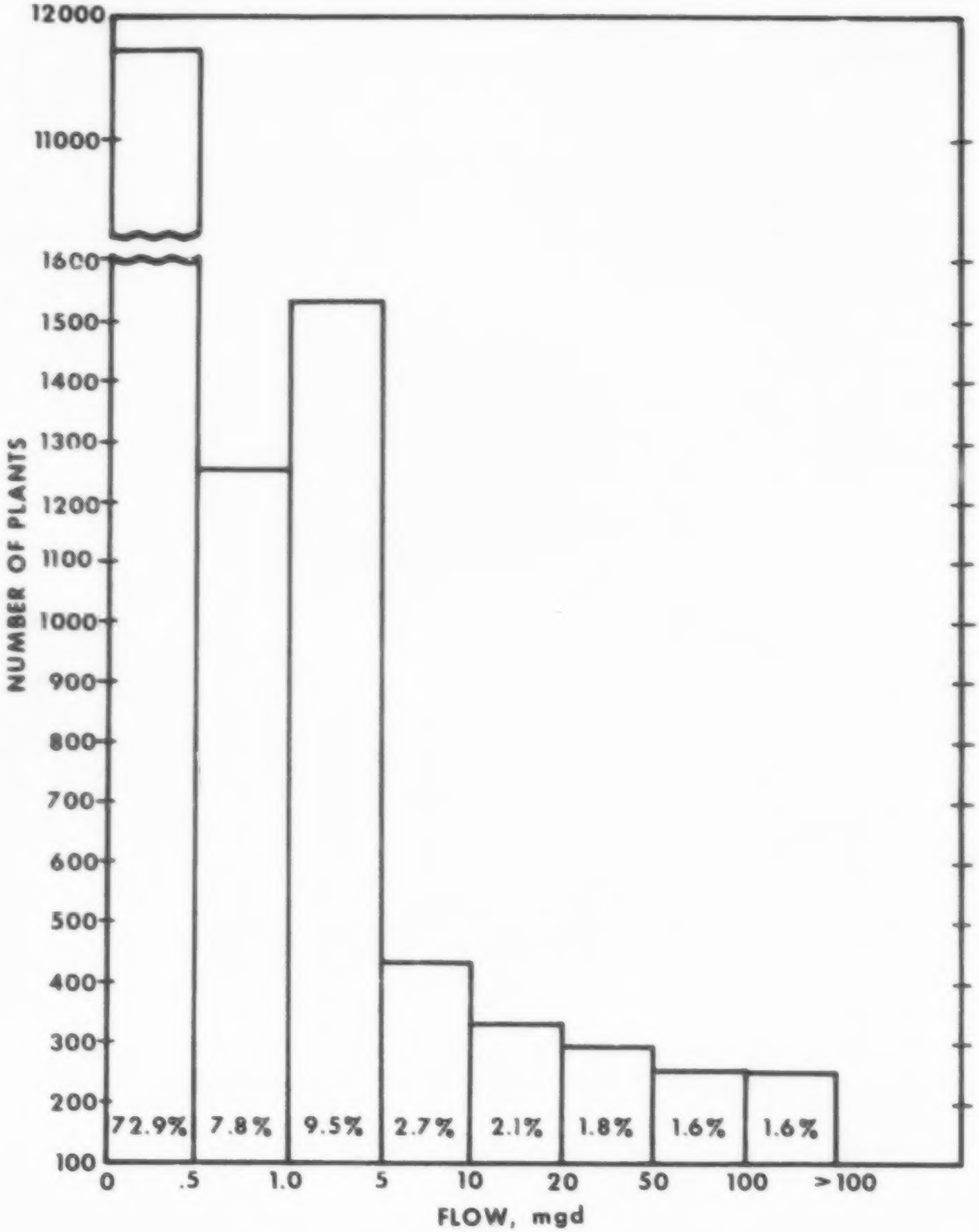


Figure 27. Secondary Treatment Distribution.
Municipal Waste Facilities August 1974 Inventory.

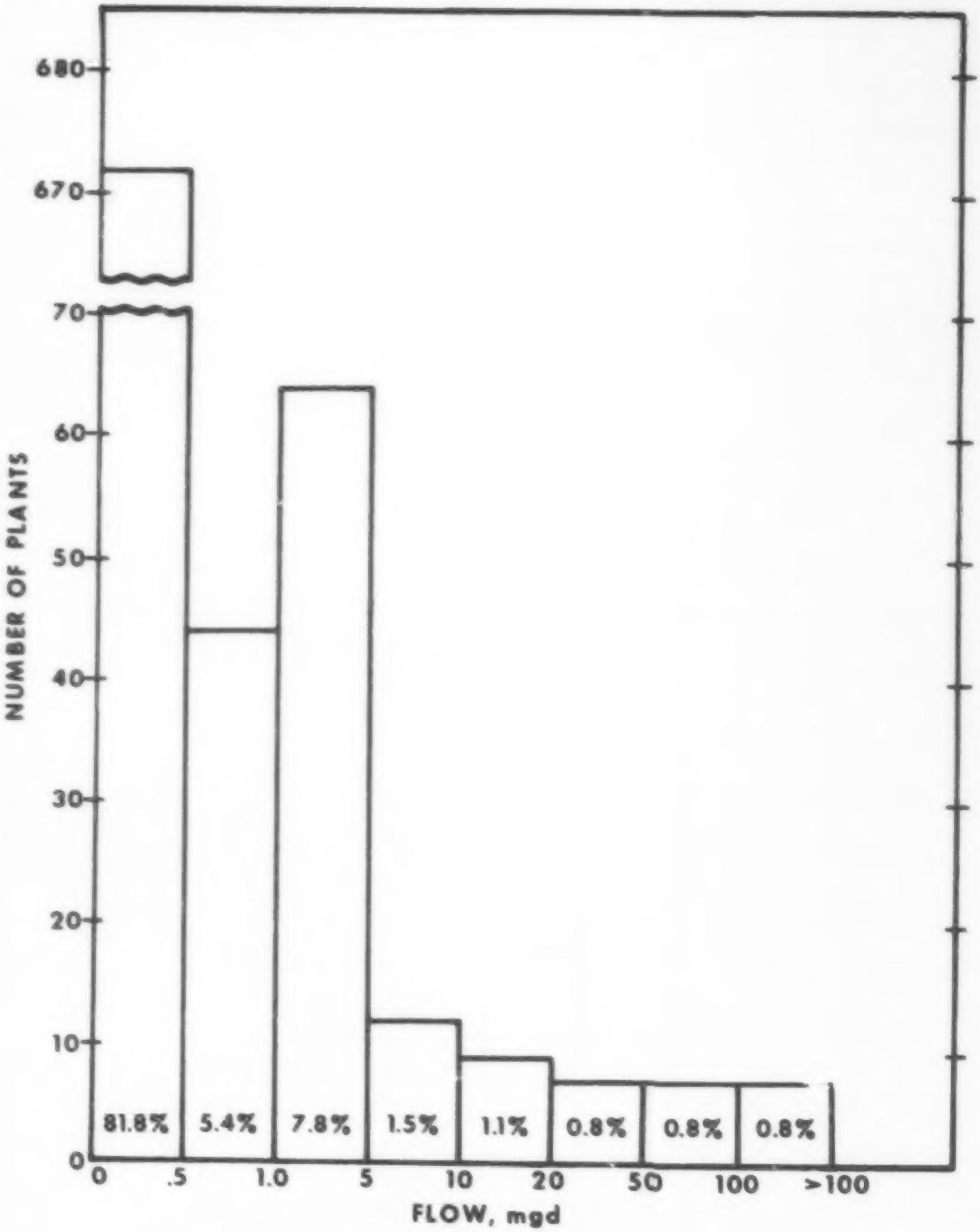


Figure 28. Tertiary Treatment Distribution.
Municipal Waste Facilities August 1974 Inventory.

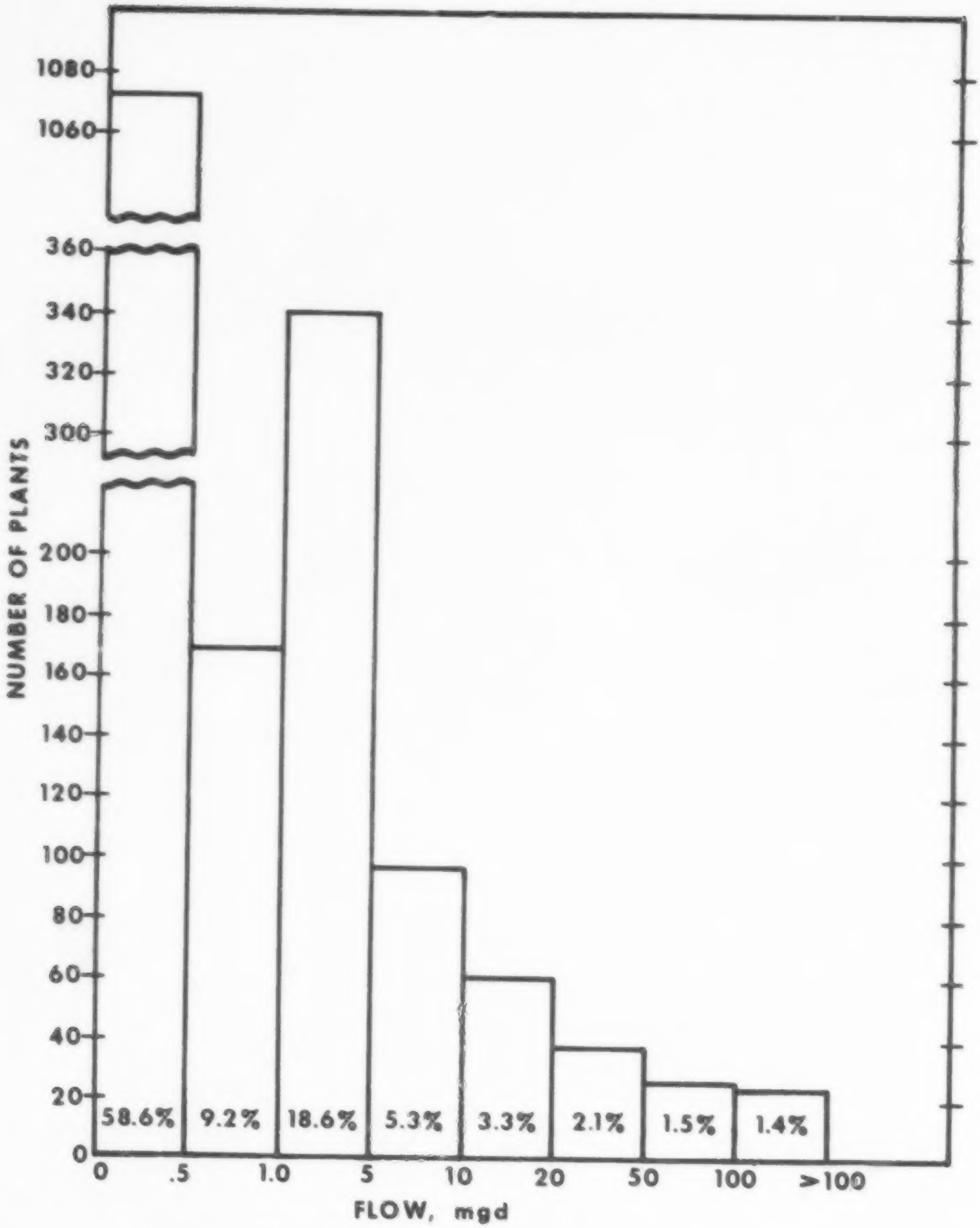


Figure 29. Secondary Treatment - Activated Sludge Distribution.
Municipal Waste Facilities August 1974 Inventory.

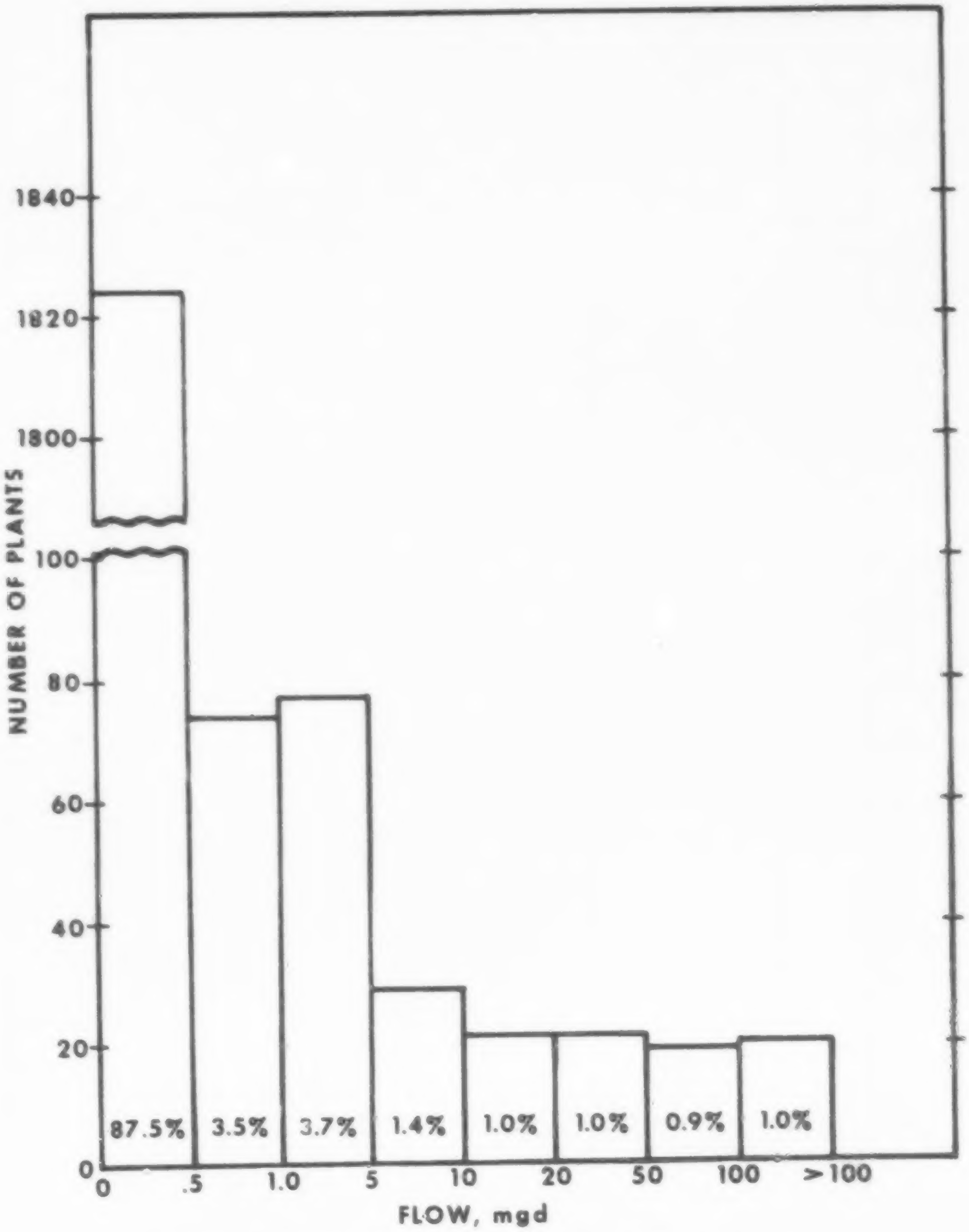


Figure 30. Secondary Treatment - Extended Aeration Distribution. Municipal Waste Facilities August 1974 Inventory.

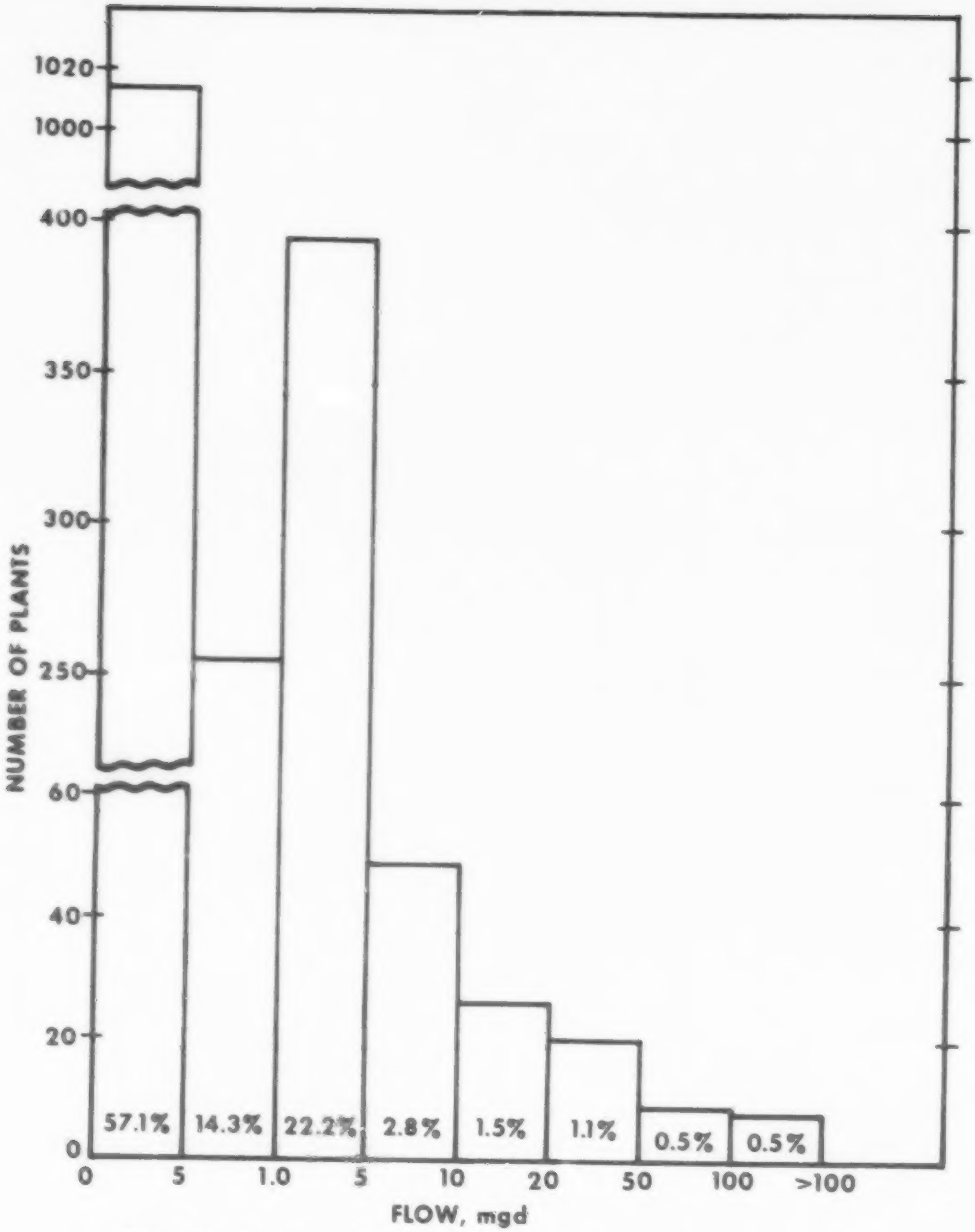


Figure 31. Secondary Treatment - High Rate Trickling Filter Distribution. Municipal Waste Facilities August 1974 Inventory.

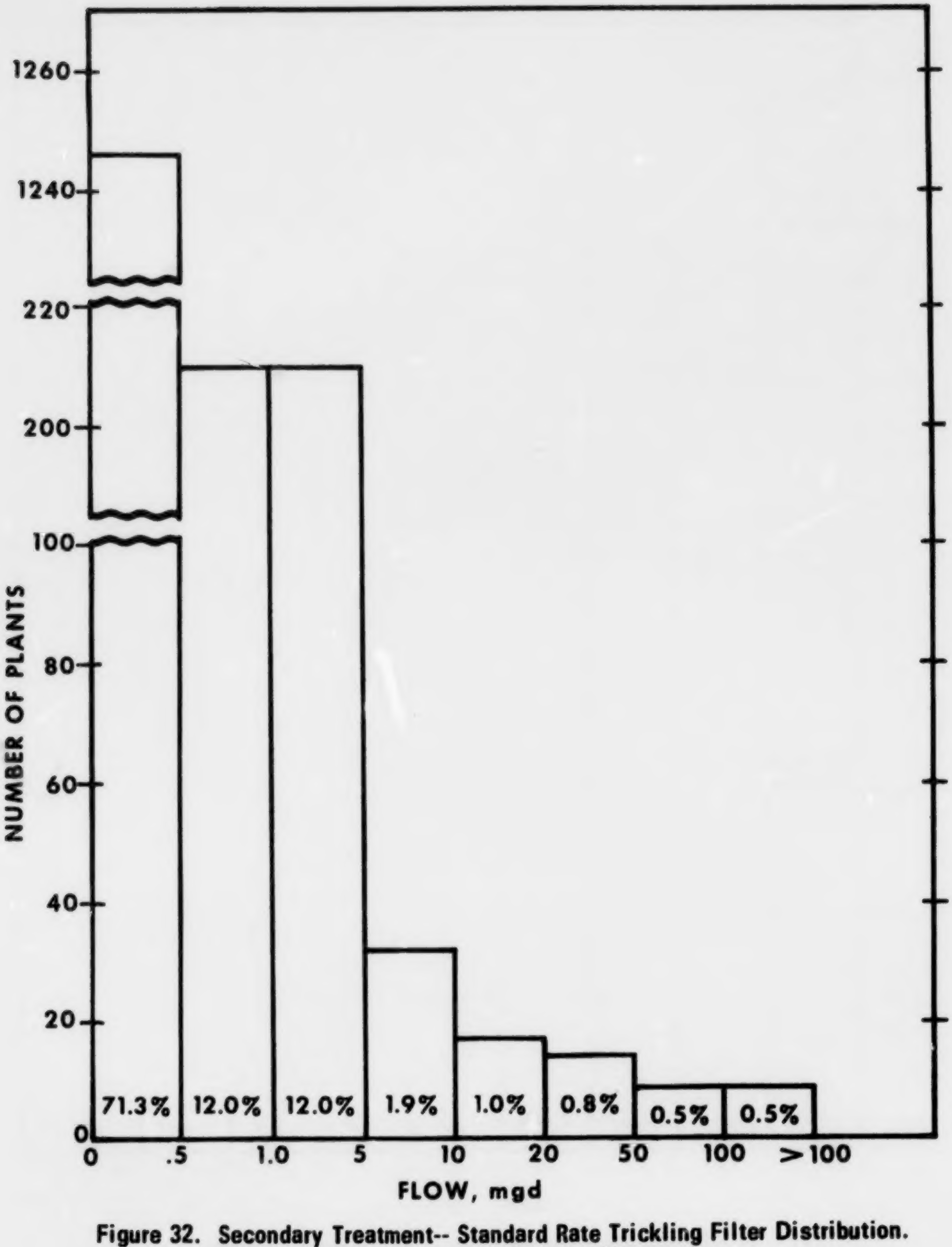


Figure 32. Secondary Treatment-- Standard Rate Trickling Filter Distribution. Municipal Waste Facilities August 1974 Invontory.

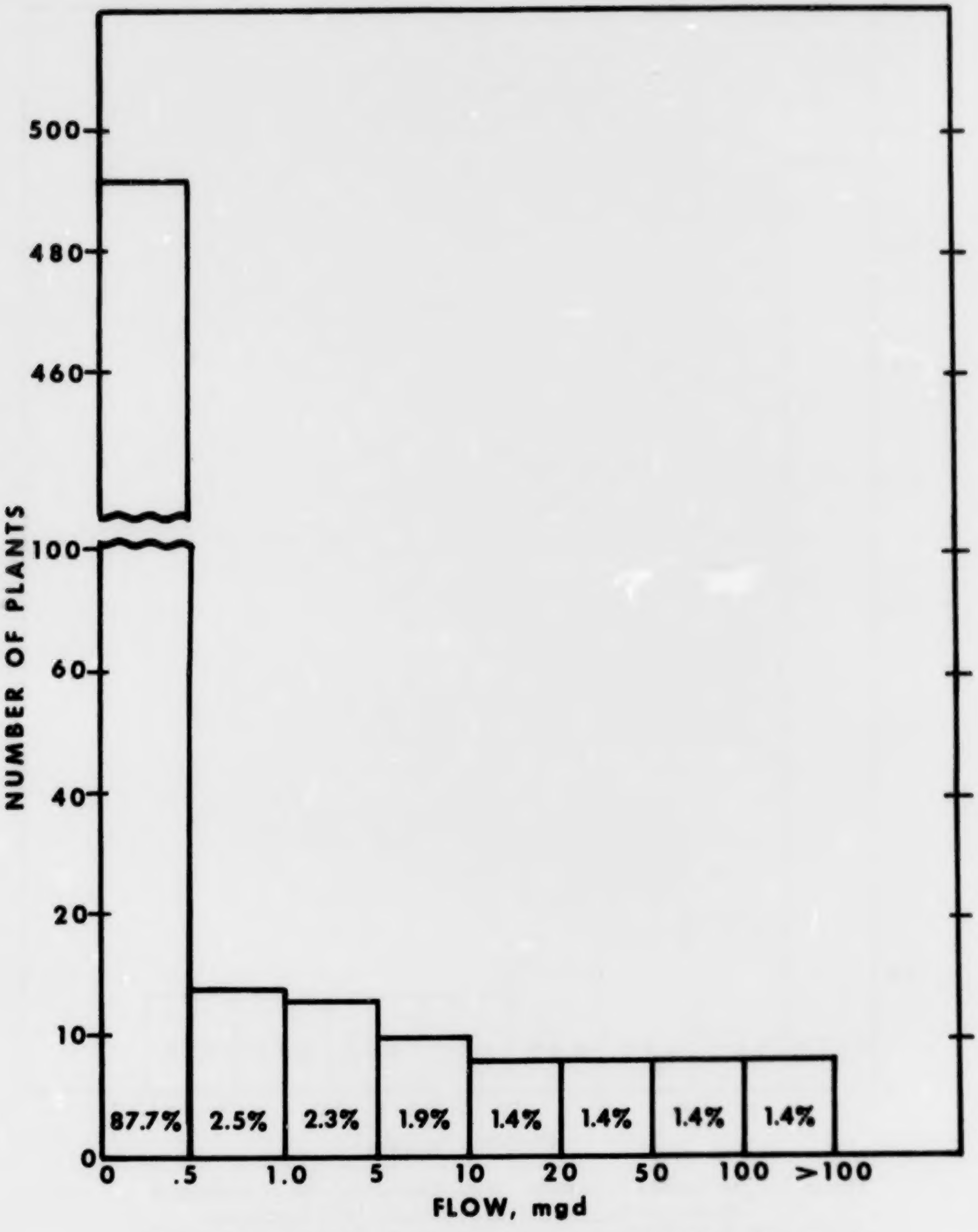


Figure 33. Secondary Treatment-Intermittent Sand Filter Distribution. Municipal Waste Facilities August 1974 Inventory.

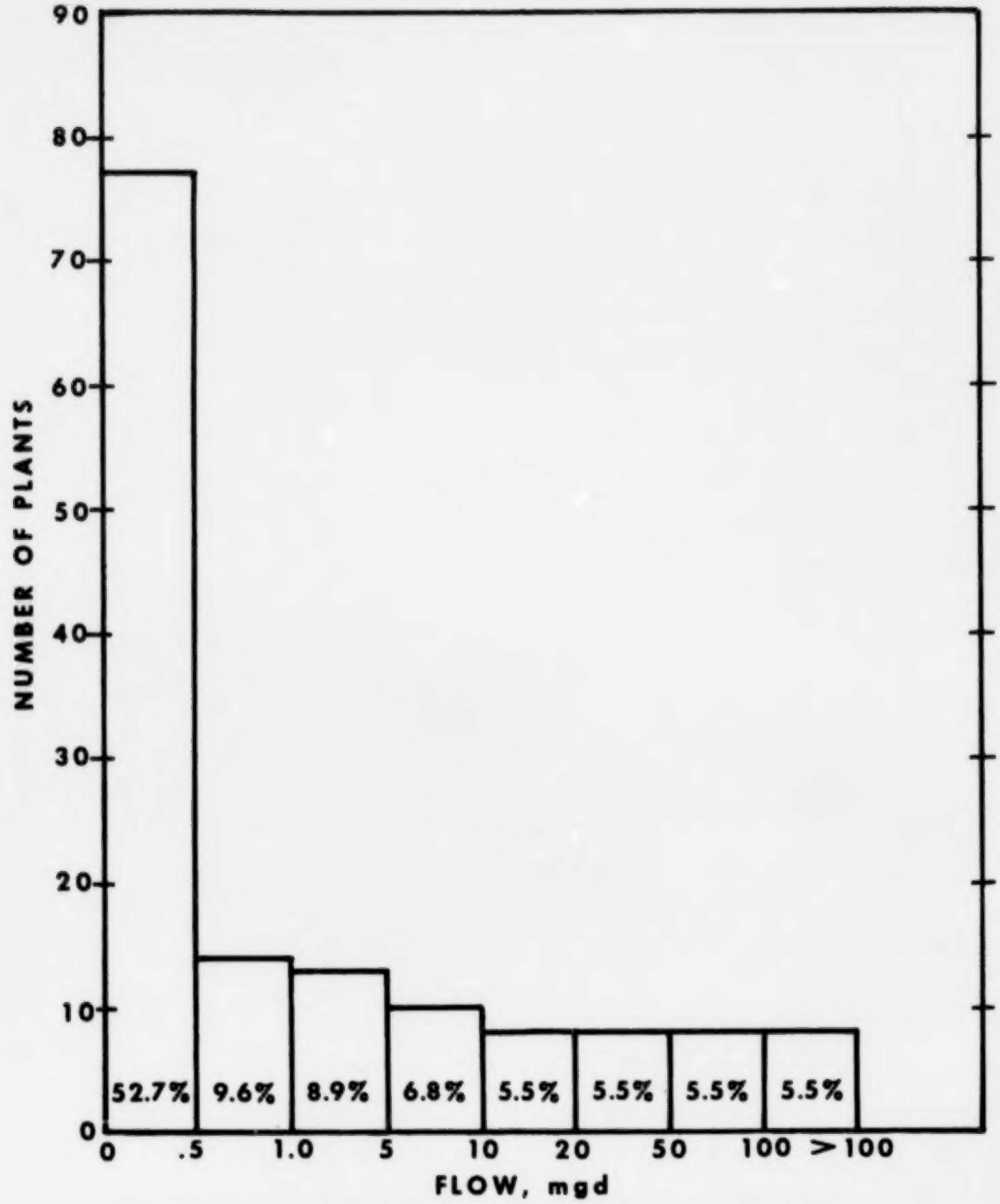


Figure 34. Secondary Treatment - Application to Land Distribution Municipal Waste Facilities August 1974 Inventory.

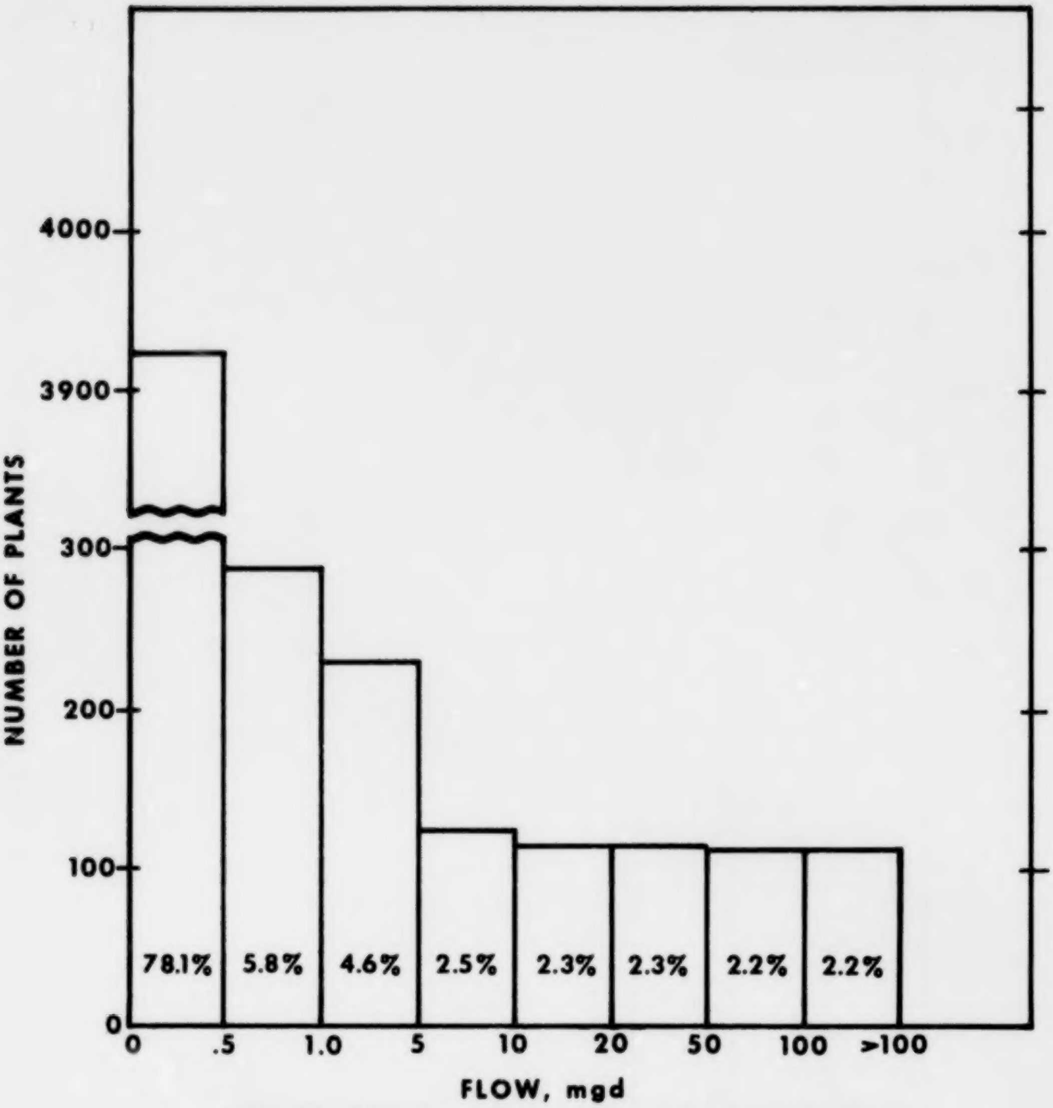


Figure 35. Secondary Treatment - Oxidation Pond Distribution. Municipal Waste Facilities August 1974 Inventory.

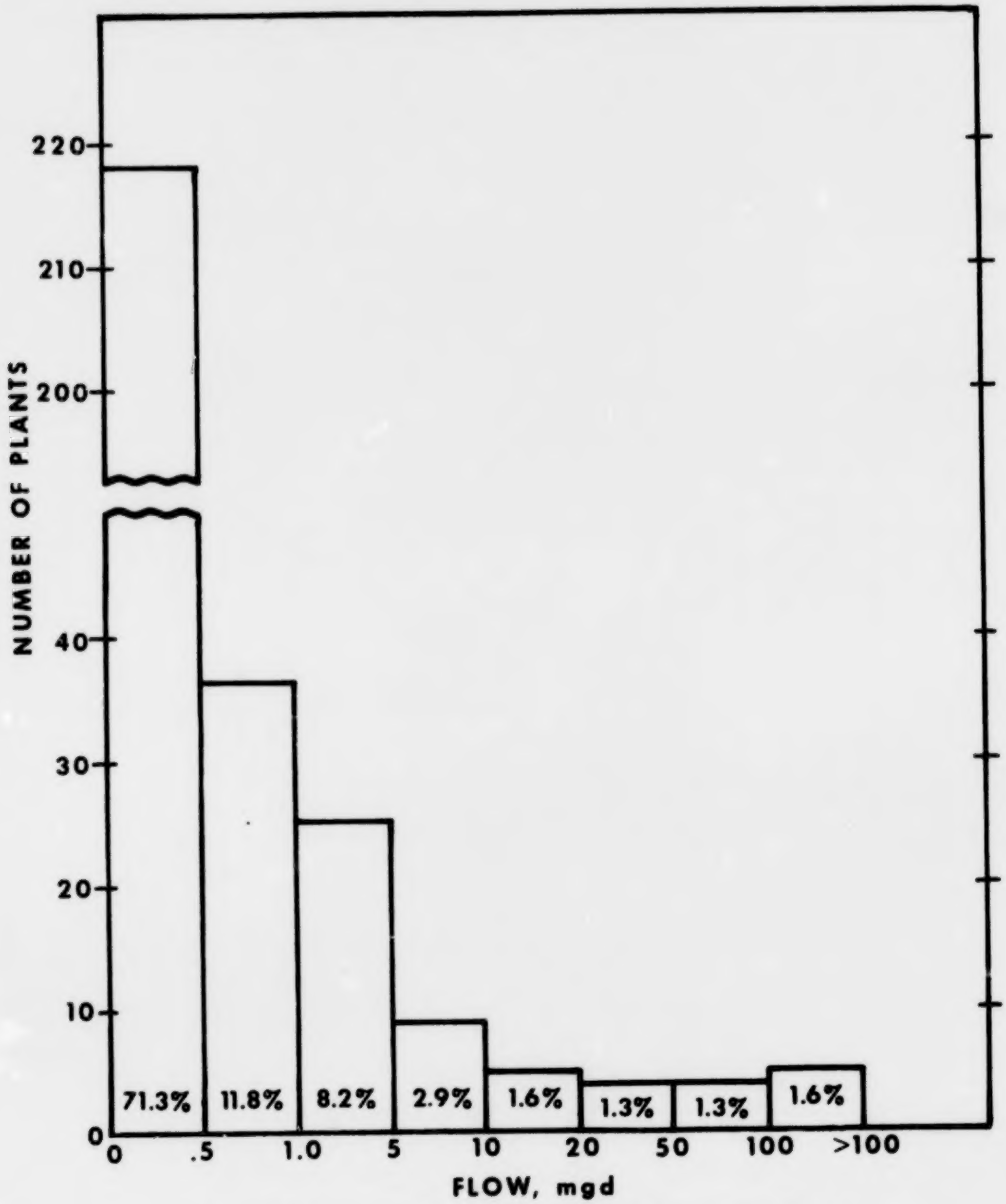


Figure 36. Secondary Treatment - Filter Unknown Distribution. Municipal Waste Facilities August 1974 Inventory.

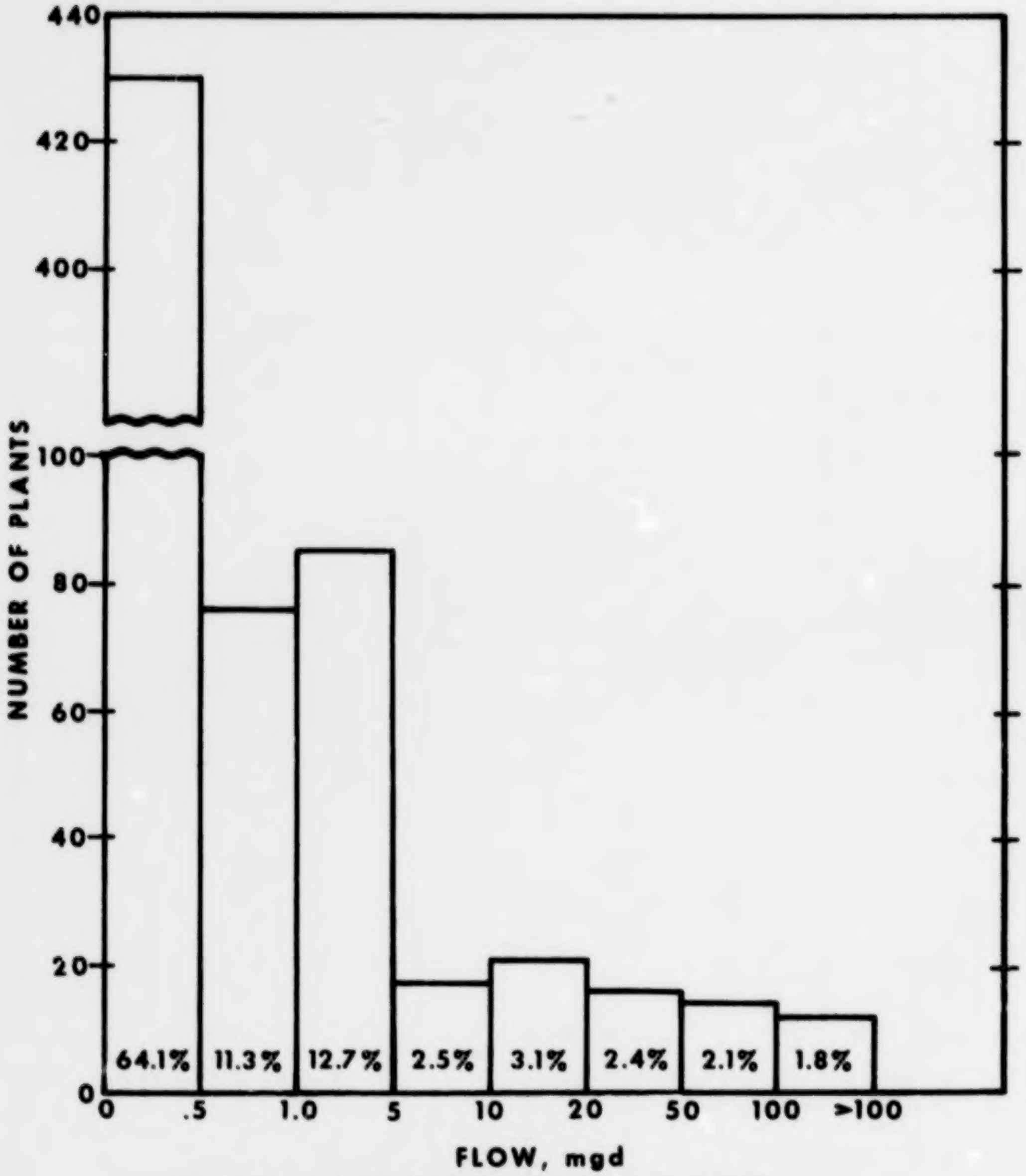


Figure 37. Unknown Secondary Treatment Distribution.
Municipal Waste Facilities August 1974 Inventory.

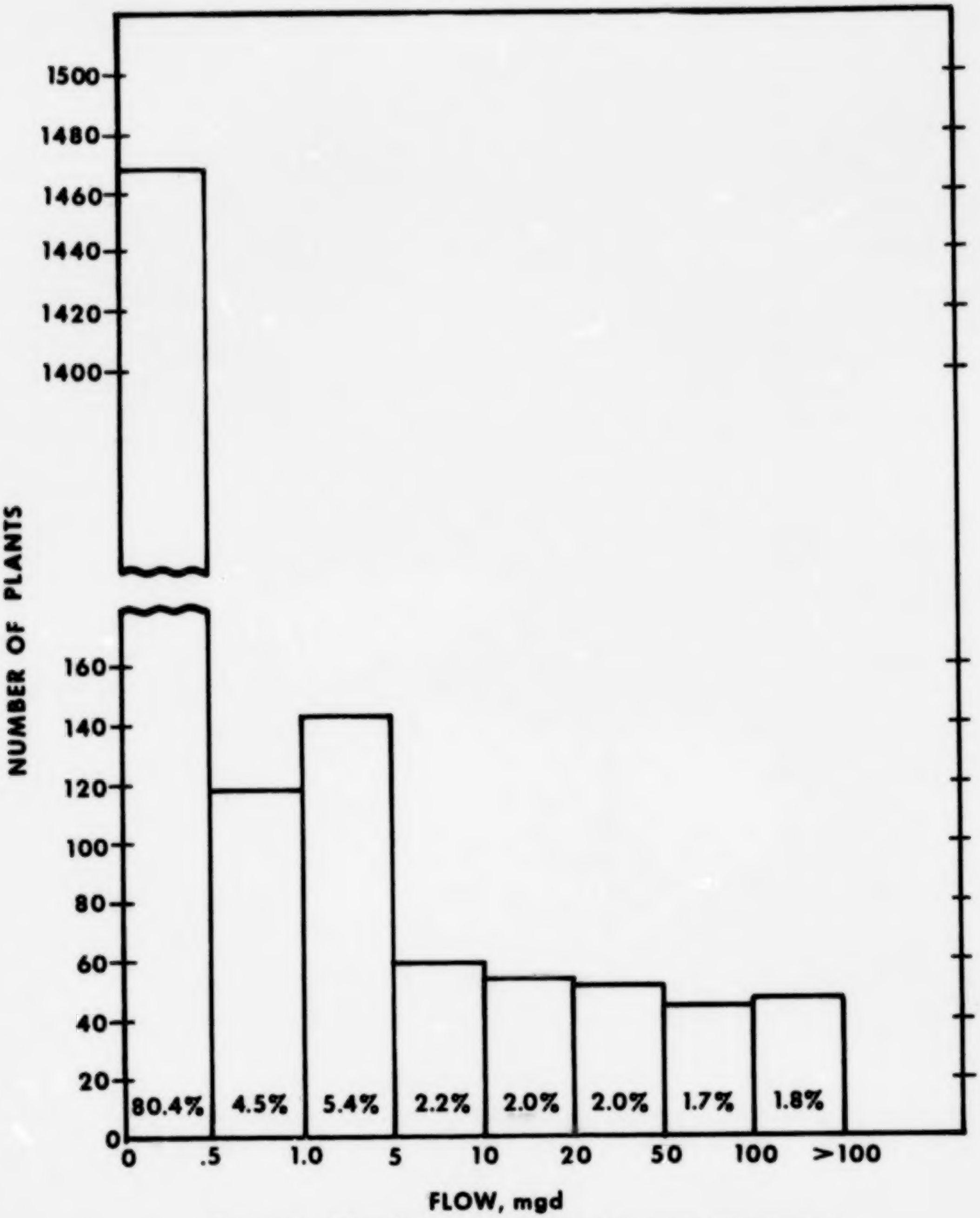


Figure 38. Other Types of Secondary Treatment Distribution. Municipal Waste Facilities August 1974 Inventory.

Table 21. OCEAN DISCHARGE - MUNICIPAL WASTE FACILITIES AUGUST 1974 INVENTORY

Type of Treatment	Number of Plants by Flow (mgd)								Total Plants
	0-1	1-5	5-10	10-20	20-50	50-100	>100	Unknown	
None	27	4	0	0	1	1	0	108	141
Minor	3	3	1	2	1	0	0	6	16
Primary	222	82	20	20	11	7	3	76	441
Intermediate	2	6	1	2	1	1	3	0	16
Secondary	1593	272	45	15	6	10	9	269	2219
Tertiary	61	6	1	1	0	0	0	7	76
									2909

Table 22. SUMMARY OF EFFLUENT QUALITY REQUIRED FOR MUNICIPAL WASTEWATER TREATMENT FACILITIES LOCATED ON WATER QUALITY LIMITED STREAM SEGMENTS - TEXAS 303(e) RIVER BASIN PLANS (26)

Suspended Solids

Suspended Solids (mg/l)	Number of Plants														Total Plants		Total Flow (mgd)	
	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P
0–5	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	3	0	142
5–10	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2.5	0
10–15	0	4	0	2	0	1	0	1	0	2	0	2	0	1	0	13	0	435
15–20	48	46	4	4	4	1	0	1	3	0	2	0	0	0	61	52	345	52
20–25	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	0
25–30	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	6.9
>30	10	0	0	0	0	0	0	0	1	0	0	0	0	0	11	0	33	0
TOTAL	59	75	5	6	4	2	0	2	4	4	2	3	0	1	74	93	381	636
	0–1		1–5		5–10		10–20		20–50		50–100		>100					

Flow (mgd)

E - Number of existing plants and effluent concentration on the present discharge permit.

P - Number of existing plants proposing effluent concentrations needed to meet the 1977 clean water goals of PL 92-500.

Table 23. SUMMARY OF EFFLUENT QUALITY REQUIRED FOR MUNICIPAL WASTEWATER TREATMENT FACILITIES LOCATED ON WATER QUALITY LIMITED STREAM SEGMENTS - TEXAS 303(e) RIVER BASIN PLANS (26)

BOD

BOD (mg/l)	Number of Plants														Total Plants		Total Flow (mgd)	
Flow (mgd)	0-1		1-5		5-10		10-20		20-50		50-100		>100					
	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P
0-5	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	3	0	142
5-10	0	4	1	2	0	1	0	1	0	2	0	2	0	1	1	13	2.5	435
10-15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15-20	71	45	4	4	4	1	0	1	4	0	2	0	0	0	85	51	382	52
20-25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25-30	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	6.9
>30	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	1.3	0
TOTAL	77	74	5	6	4	2	0	2	4	4	2	3	0	1	92	92	386	636

E - Number of existing plants and effluent concentration on the present discharge permit.

P - Number of existing plants proposing effluent concentrations needed to meet the 1977 clean water goals of PL 92-500.

computerized, however, and there are presently no centralized facilities within EPA to store, handle, or analyze this information. Many of these permits are interim permits and do not reflect the long-term effluent quality required to meet the goals of PL 92-500 that are more stringent than secondary treatment.

Projection Based on 1973 Needs Survey

From the 1973 Needs Survey about 5 percent (694) of the 15,126 plants surveyed predicted that they would have to meet an effluent suspended solids concentration of ≤5 mg/l. This level of treatment is achievable through the use of current technology, but will require excellent control of biological processes followed by effluent filtration or tertiary coagulation followed by filtration (27). It should be noted that about 70 percent of the plants predicting they would have to achieve this level of treatment were below 1 mgd in size. This emphasizes the need to optimize available filtration or alternate solids removal technology applicable to small plants.

About 6 percent (834) of the 15,126 plants surveyed predicated they would have to meet a BOD standard of ≤5 mg/l. While some conservatively designed biological treatment plants followed by efficient suspended solids removal will be able to approach or meet this standard, many high-rate systems or plants that receive moderate industrial contributions will have to provide additional treatment. This means that there is a need to develop and demonstrate cost-effective technology, such as high rate carbon adsorption-filtration, powdered carbon addition, or tertiary oxidation systems to upgrade such plants so that they can attain this effluent quality.

According to the National Water Quality Inventory, nitrate and phosphorus concentrations are generally rising in our waterways (17). This concern is reflected in the 1973 Needs Survey data which showed that approximately 5 percent of the 15,126 plants surveyed plan to remove inorganic nitrogen down to a level of ≤1 mg/l; only about 0.3 percent of the plants were reaching that level in 1973. Several methods are available to limit the effluent nitrogen content of municipal effluents (28) and a summary of typical nitrogen removal capabilities is presented in Table 24. Technology in this area is adequate to polish the effluent to 1.5-3.5 mg/l of total nitrogen and to 0.1 to 0.3 mg/l of nitrate and ammonia nitrogen.

The Needs data also show that about 5 percent of the plants surveyed projected that they would reduce the phosphorus content of their effluent to ≤1 mg/l, which is roughly the same percent anticipating achieving that level in the case of nitrogen. The methods most likely to be used for phosphorus removal are lime precipitation or mineral salt addition. Two-stage, tertiary lime addition plus filtration can reduce effluent phosphorus in biological treatment plants to less than 0.05 mg/l (29). The addition of mineral salts can reduce the phosphorus content in effluents from municipal treatment plants by 85-99 percent depending on the point of addition, dosage used, and degree of suspended solids removal provided (typical removals using alum are shown in Table 25).

Table 24. EFFLUENT QUALITY EXPECTED FROM NITROGEN CONTROL PROCESSES (INFLUENT TOTAL NITROGEN 25-30 mg/1) (30)

Process	Effluent Quality Expected (mg/1)			
	Organic N	NO_3-N	NH_4-N	Total N
Single-Stage Nitrification	1.5-2.5	18-22	0.5-1.0	20-25
Two-Stage Nitrification	1.0-2.0	18-22	0.5-1.0	20-25
Single-Stage Nit. - Denit.	2.0-3.0	1.0-2.0	1.0-2.0	4.0-7.0
Separate Stage Nit. - Denit.	1.0-2.0	0.1-0.5	0.5-1.0	1.6-3.5
Selective Ion Exchange	1.5-2.5	0.1-0.2	0.5-1.0	2.1-3.7
Breakpoint Chlorination	1.5-2.5	0.1-0.2	0.1-0.3	1.7-3.0
Ammonia Stripping	1.5-2.5	0.1-0.2	0.5-1.0	2.1-3.7

Table 25. TYPICAL PHOSPHORUS REDUCTIONS WITH ALUM ADDITION (31)

Plant Location	Dose of Alum (mg/l)	Phosphorus (mg/l P) Raw	Eff.	% Removal
Primary Treatment				
Windsor, Ont.	90	7.8	1.0	87
Trickling Filter				
Richardson, Tex.	165	10.9	0.7	94
Chapel Hill, N.C.	175	12.6	1.3	90
Belmont, Va. *	190-205	18.3	2.1	88
Occoquan, Va. *	300-400	9.1	1.4	85
Activated Sludge				
Michigan City, Ind.	35	10.7	0.8	93
Fort Wayne, Ind.	51	6.5	1.1	83
Sandusky, Ohio	55	11.2	0.8	93
Avon Lake, Ohio	88	7.7	0.8	90
Leesburg, Fla.	90	7.0	0.6	91
Punta Gorda, Fla.+	90-100	11.8	0.2	99
Guelph, Ont.	100	6.1	0.8	87
Kaukauna, Wis.	90	10.2	0.6	95

* Plant has primary and trickling filters but chemical treatment is to the primary stage.

+ Filtration of secondary clarifier effluent.

An overall summary of the 1973 Needs Survey indicates that approximately 70 percent of all upgrading will be required for plants having a flow of less than 1 mgd.

A comparison of existing technology with projected needs indicates that some form of technology (although not necessarily optimum technology) is available for meeting required suspended solids, nitrogen, and phosphorus removals. Additional development and demonstration of technology are needed for BOD removal to <5 mg/l, and for alternate disinfection processes. Special research emphasis should be placed on optimizing the cost effectiveness of available and newly developed technology for municipal treatment plants in the smaller flow ranges.

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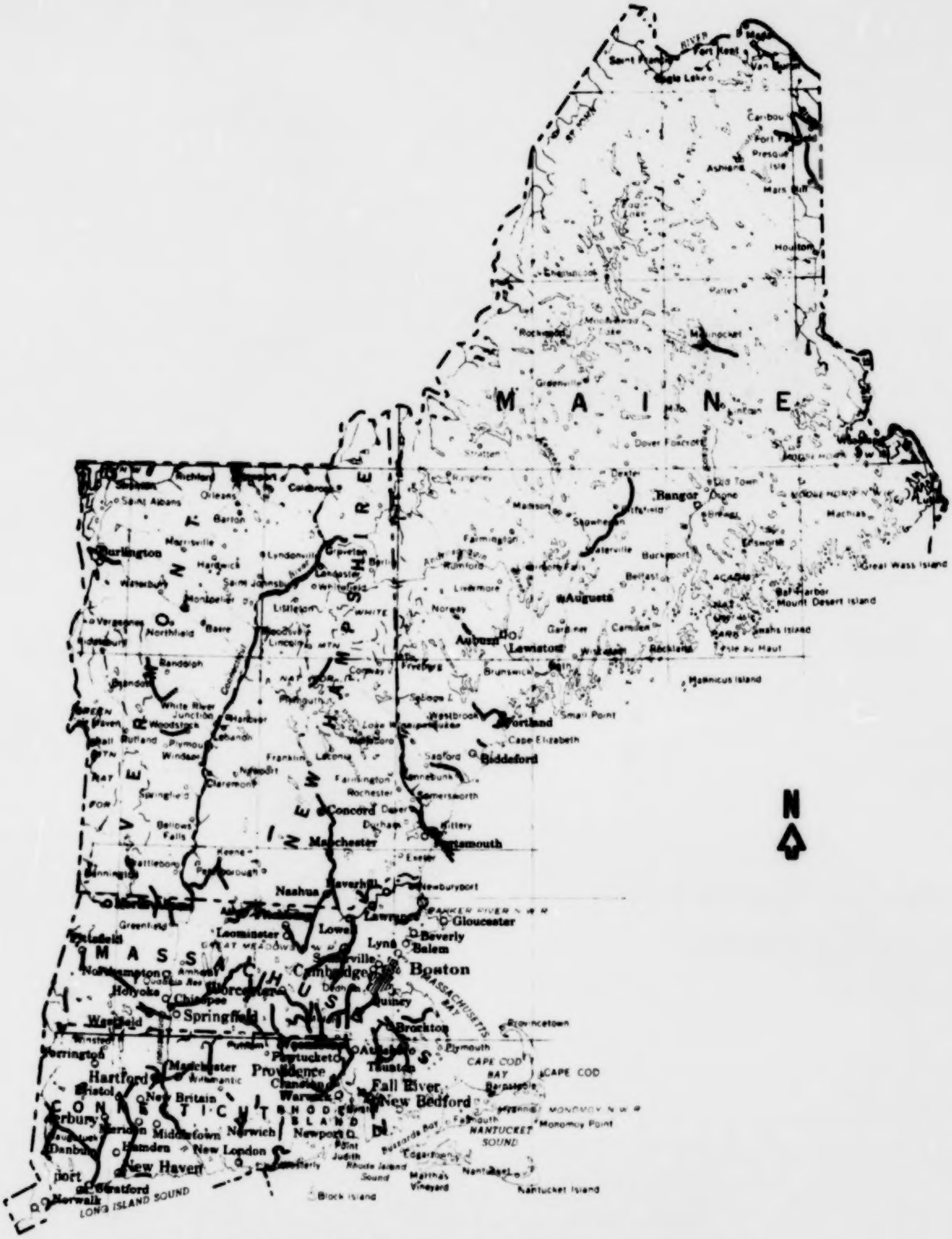
APPENDIX

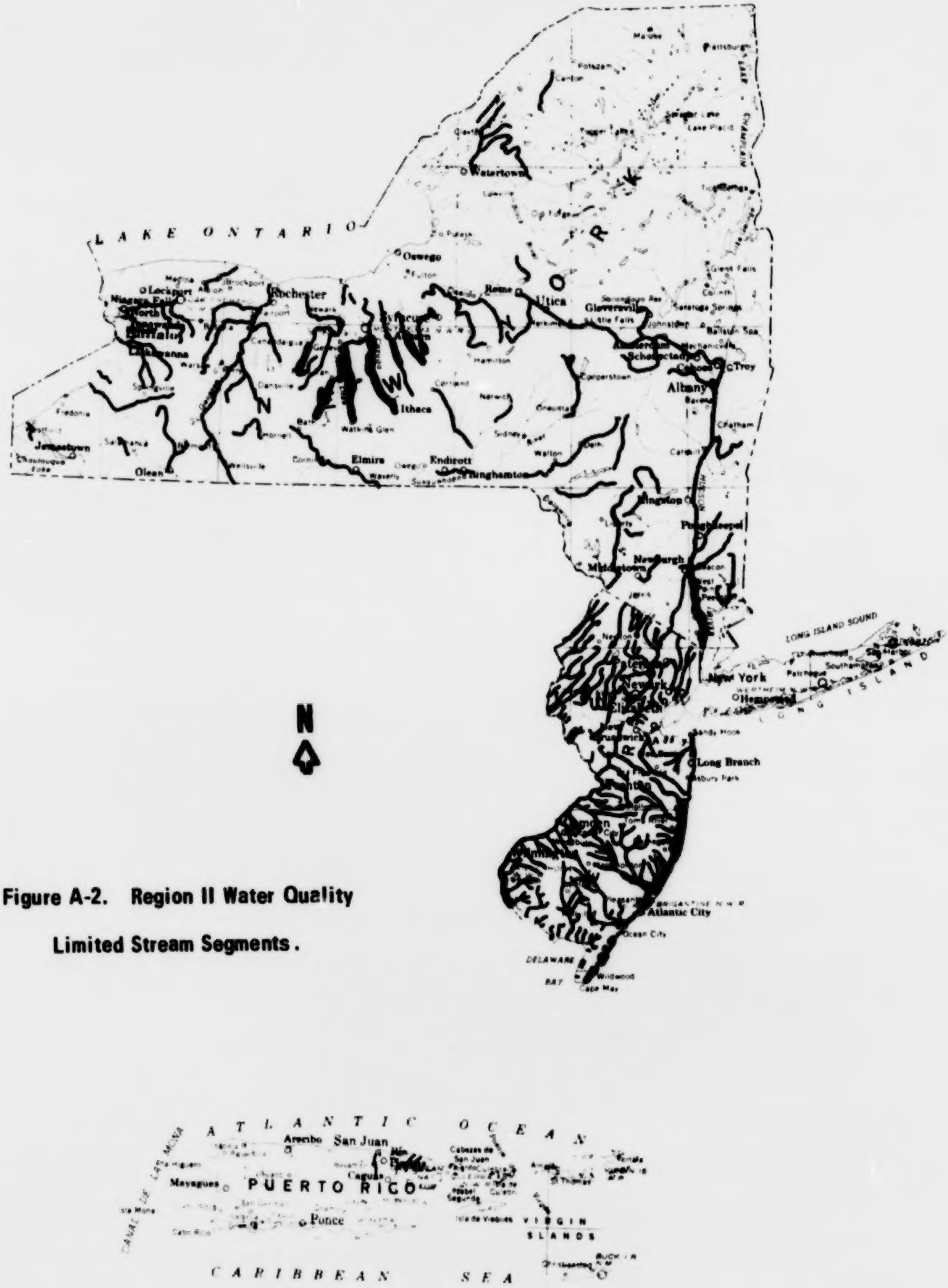
To delineate the WQLSS in Figures A-1 thru A-10, it was first necessary to obtain a description of each WQLSS and locate these segments on large scale state maps. Each WQLSS is described in Tables A-1 thru A-10. Any segments not located on the large scale state maps is noted with an asterisk. After the WQLSS were located on the state maps, they were then delineated on smaller scale EPA regional maps, subject to the following qualifications:

1. Estimates were made of the location and length of streams that could be located on the state maps but did not appear on the EPA regional maps.
2. In states where all streams are classified as water quality limited, only the streams that appear on the EPA regional maps were delineated.
3. Tributaries to WQLSS were not delineated unless the WQLSS list specifically stated that they were included.
4. If a WQLSS is intermittent over a portion of its length, only the continual flow portion was indicated on the maps.



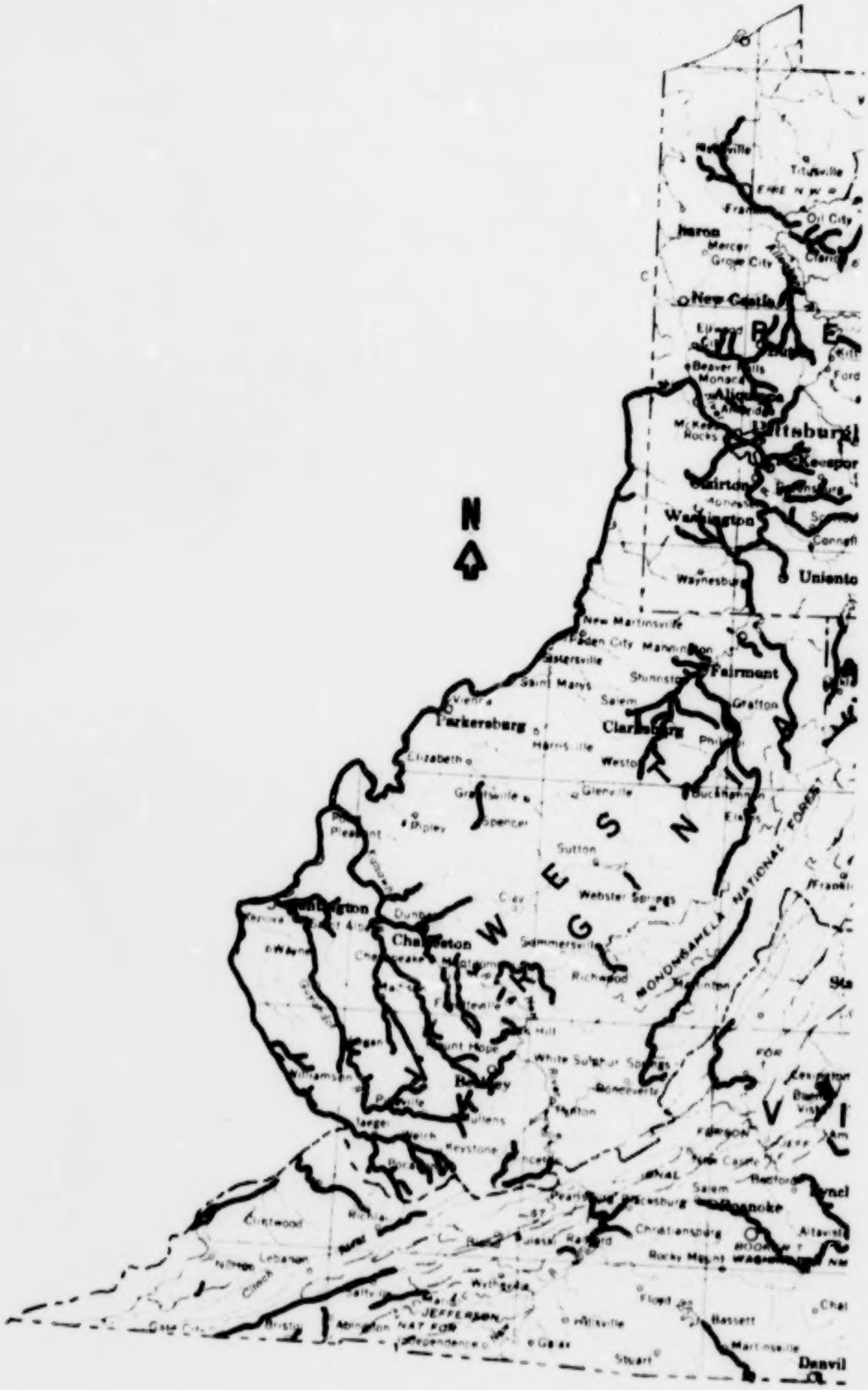
MAINE
VERMONT
NEW HAMPSHIRE
MASSACHUSETTS
CONNECTICUT
RHODE ISLAND
N
Fort Kent
Caribou
Presque Isle
Mars Hill
Houlton
Millinocket
Dover Foxcroft
Bangor
Old Town
Machias
Great Wass Island
Skowhegan
Waterville
Augusta
Farmington
Rumford
Livermore
Bar Harbor
Mount Desert Island
Belfast
Camden
Rockland
Auburn
Lewiston
Brunswick
Monhegan Island
Small Point
Portland
Westbrook
Cape Elizabeth
Biddeford
Sanford
Kennebunk
Somersworth
Kittery
Portsmouth
Dover
Durham
Exeter
Rochester
Concord
Manchester
Nashua
Keene
Peterborough
Franklin
Laconia
Plymouth
Conway
Berlin
Lancaster
Whitefield
Littleton
Lincoln
Lebanon
Claremont
Newport
Colebrook
Saint Albans
Burlington
Vergennes
Middlebury
Montpelier
Barre
Northfield
Randolph
Rutland
Woodstock
White River Junction
Windsor
Springfield
Bellows Falls
Brattleboro
Bennington
Saint Johnsbury
Lyndonville
Newburyport
Haverhill
Lawrence
Lowell
Gloucester
Beverly
Salem
Lynn
Cambridge
Somerville
Boston
Quincy
Brockton
Plymouth
Provincetown
CAPE COD BAY
CAPE COD
MASSACHUSETTS BAY
Barnstable
Hyannis
Monomoy Point
Falmouth
NANTUCKET SOUND
Nantucket Island
Edgartown
Martha's Vineyard
Buzzards Bay
New Bedford
Fall River
Taunton
Attleboro
Pawtucket
Providence
Cranston
Warwick
Newport
Point Judith
Rhode Island Sound
Block Island
Woonsocket
Worcester
Leominster
Fitchburg
Greenfield
Pittsfield
Northampton
Amherst
Holyoke
Chicopee
Springfield
Westfield
Winsted
Torrington
Hartford
Manchester
Willimantic
Bristol
New Britain
Waterbury
Meriden
Middletown
Norwich
New London
Hamden
New Haven
Danbury
Stratford
Bridgeport
Norwalk
LONG ISLAND SOUND

Figure A-1. Region I Water Quality Limited Stream Segments.



LAKE ONTARIO
Watertown
Oswego
Rochester
Lockport
Niagara Falls
Buffalo
Jamestown
Olean
Syracuse
Rome
Utica
Gloversville
Schenectady
Troy
Albany
Ithaca
Elmira
Endicott
Binghamton
Kingston
Poughkeepsie
Newburgh
Middletown
New York
Hempstead
LONG ISLAND SOUND
LONG ISLAND
Newark
Elizabeth
Long Branch
Trenton
Camden
Atlantic City
Ocean City
DELAWARE BAY
Wildwood
Cape May
N
ATLANTIC OCEAN
Arecibo
San Juan
Mayaguez
PUERTO RICO
Caguas
Ponce
VIRGIN ISLANDS
CARIBBEAN SEA

Figure A-2. Region II Water Quality Limited Stream Segments.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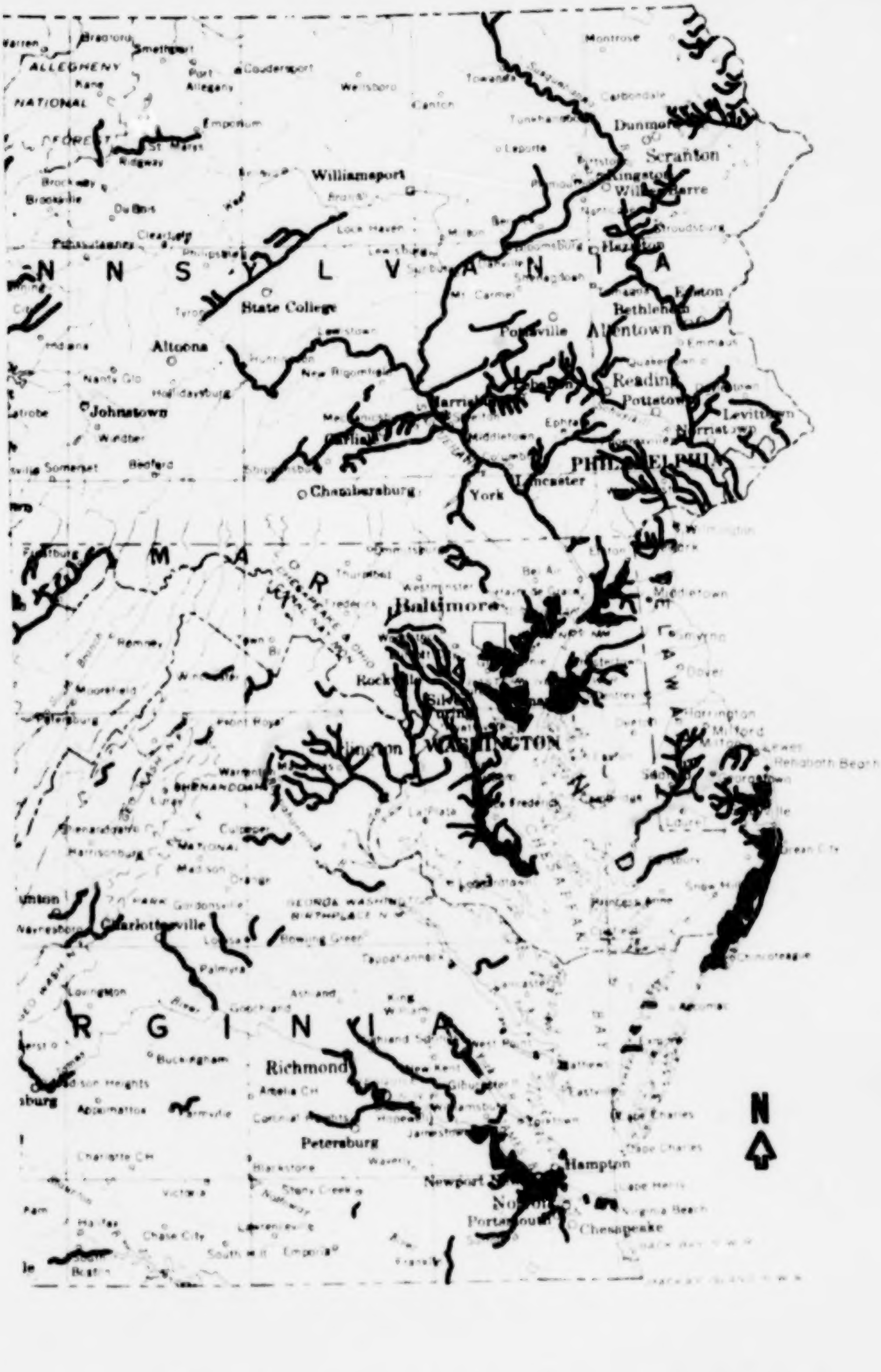
Titusville
Oil City
Mercer
Grove City
New Castle
Beaver Falls
Monaca
Pittsburgh
Washington
Waynesburg
Uniontown
New Martinsville
Paden City
Sistersville
Saint Marys
Mannington
Fairmont
Shinnston
Salem
Grafton
Parkersburg
Vienna
Clarksburg
Harrisville
Elizabeth
Weston
Glenville
Spencer
Ripley
Point Pleasant
Sutton
Webster Springs
Buckhannon
Elkins
Clay
Dunbar
Charleston
Summersville
Richwood
Wayne
Williamson
Iaeger
Welch
Keystone
White Sulphur Springs
Ronceverte
Lewisburg
Marlinton
MONONGAHELA NATIONAL FOREST
W E S T V I R G I N I A
Salem
Roanoke
Bedford
Christiansburg
Radford
Rocky Mount
Bassett
Martinsville
Danville
Stuart
Floyd
Wytheville
Lebanon
Clinch
Bristol
Abingdon
JEFFERSON NAT FOR
Independence
Galax
Lexington
Buena Vista
Altavista
Lynchburg

Figure A-3. Region III Water Quality Limited Stream Segments.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MARYLAND
DELAWARE
VIRGINIA
Williamsport
State College
Altoona
Johnstown
Scranton
Wilkes-Barre
Hazleton
Bethlehem
Allentown
Reading
Pottstown
Harrisburg
Carlisle
Chambersburg
York
Lancaster
Philadelphia
Baltimore
Rockville
Washington
Charlottesville
Richmond
Petersburg
Newport News
Norfolk
Portsmouth
Chesapeake
Hampton
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Figure A-3 continued. Region III Water Quality Limited Stream Segments.

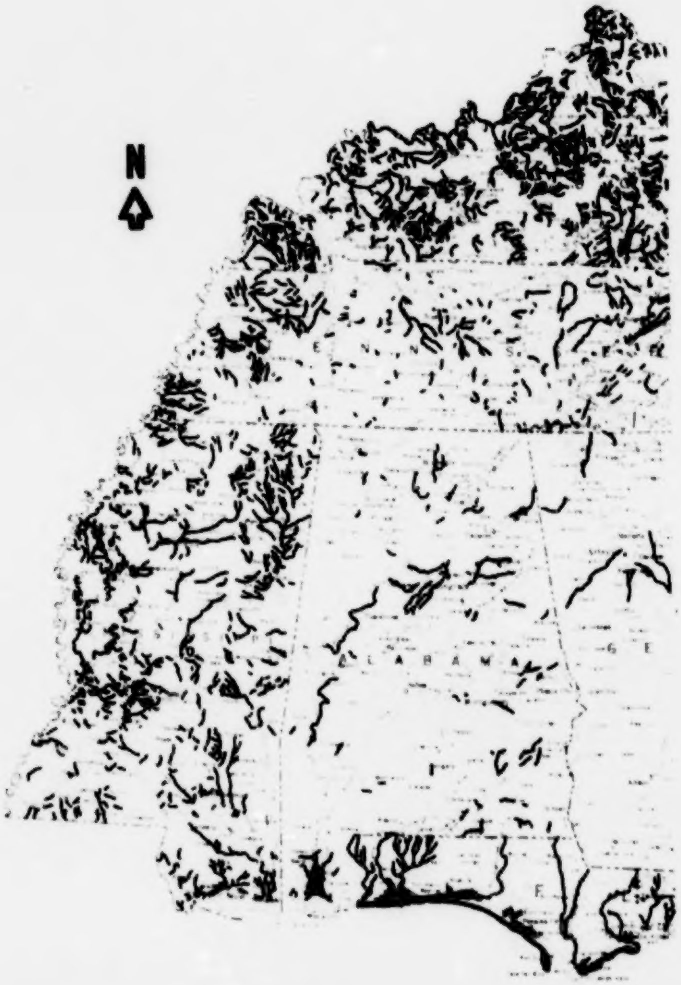

Figure A-4. Region IV Water Quality Limited Stream Segments.

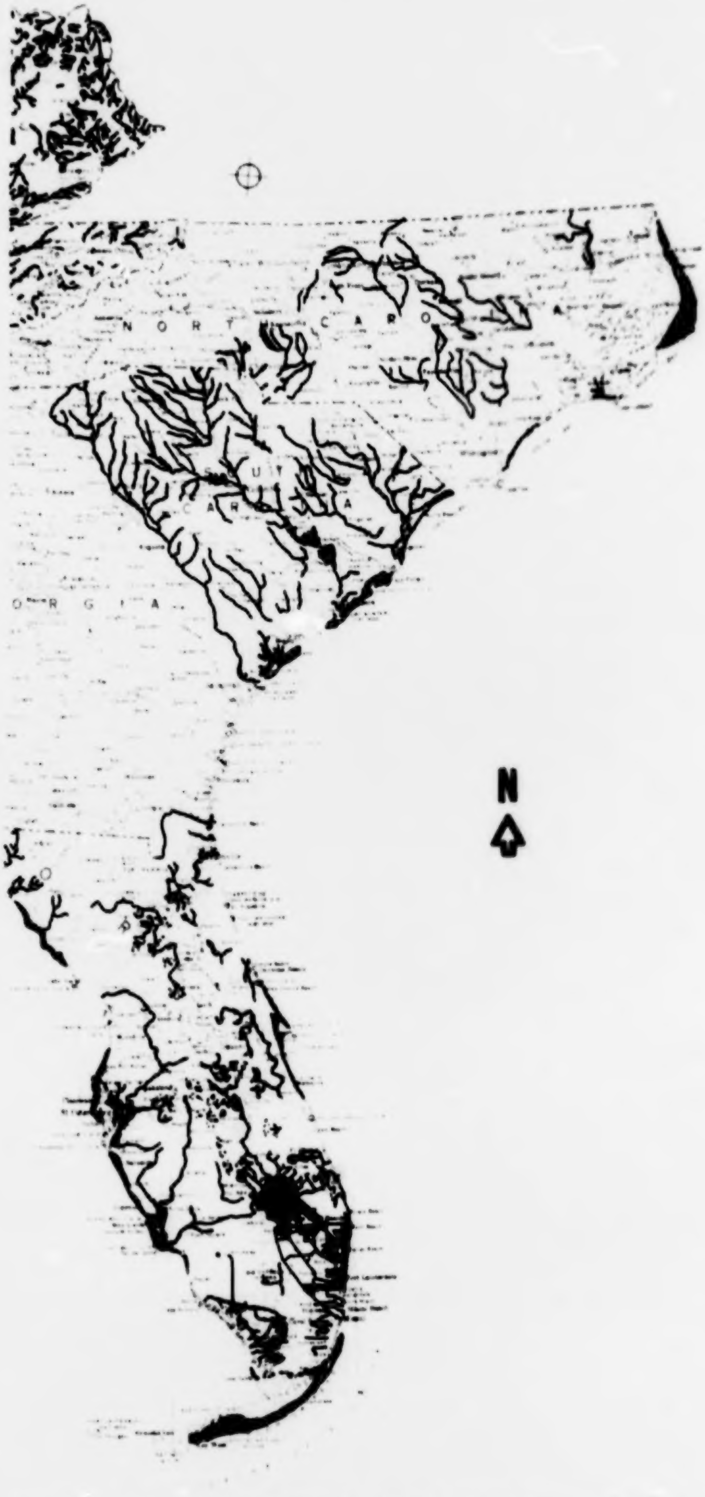
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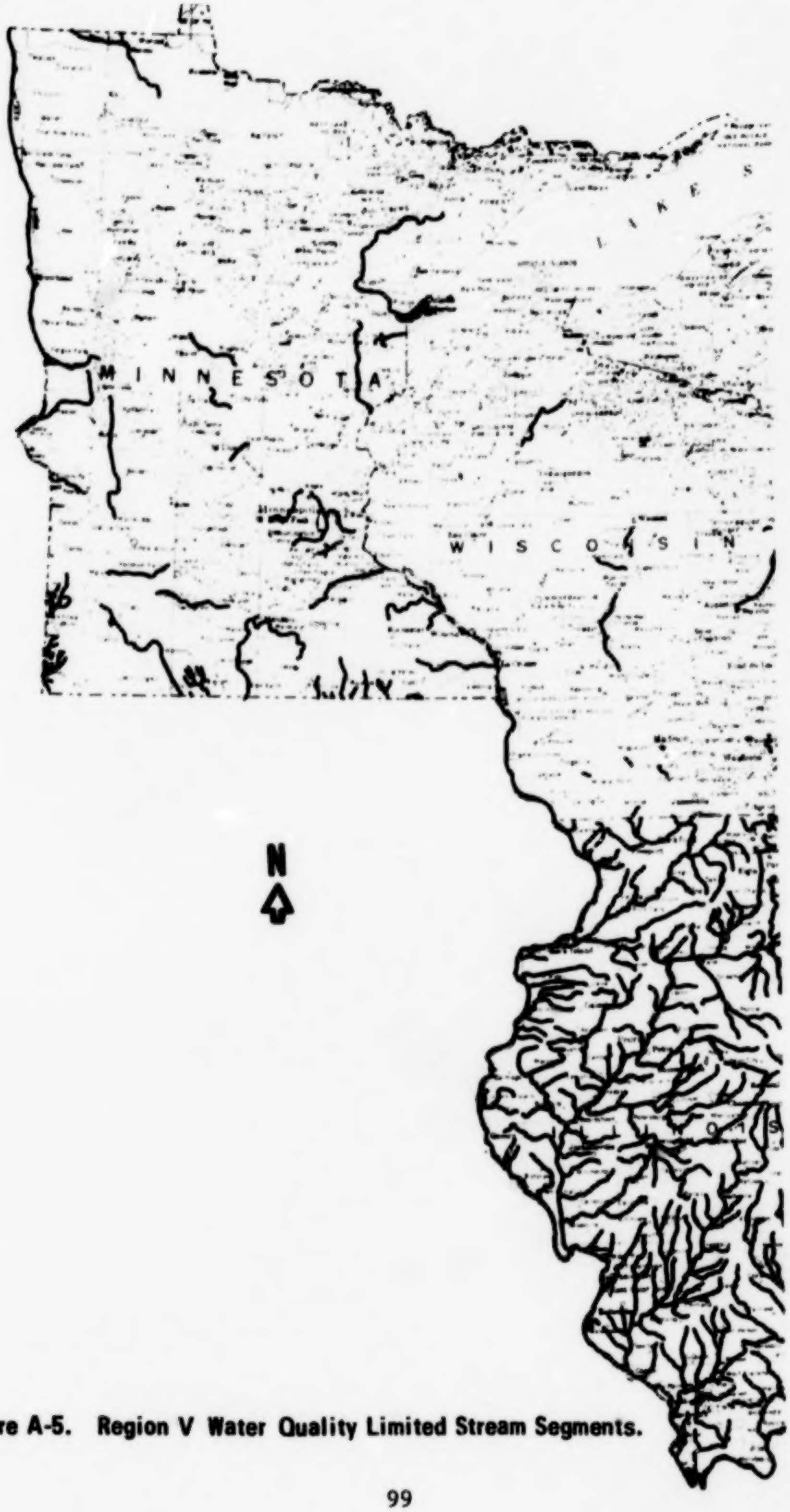
Figure A-4 continued. Region IV Water Quality Limited Stream Segments.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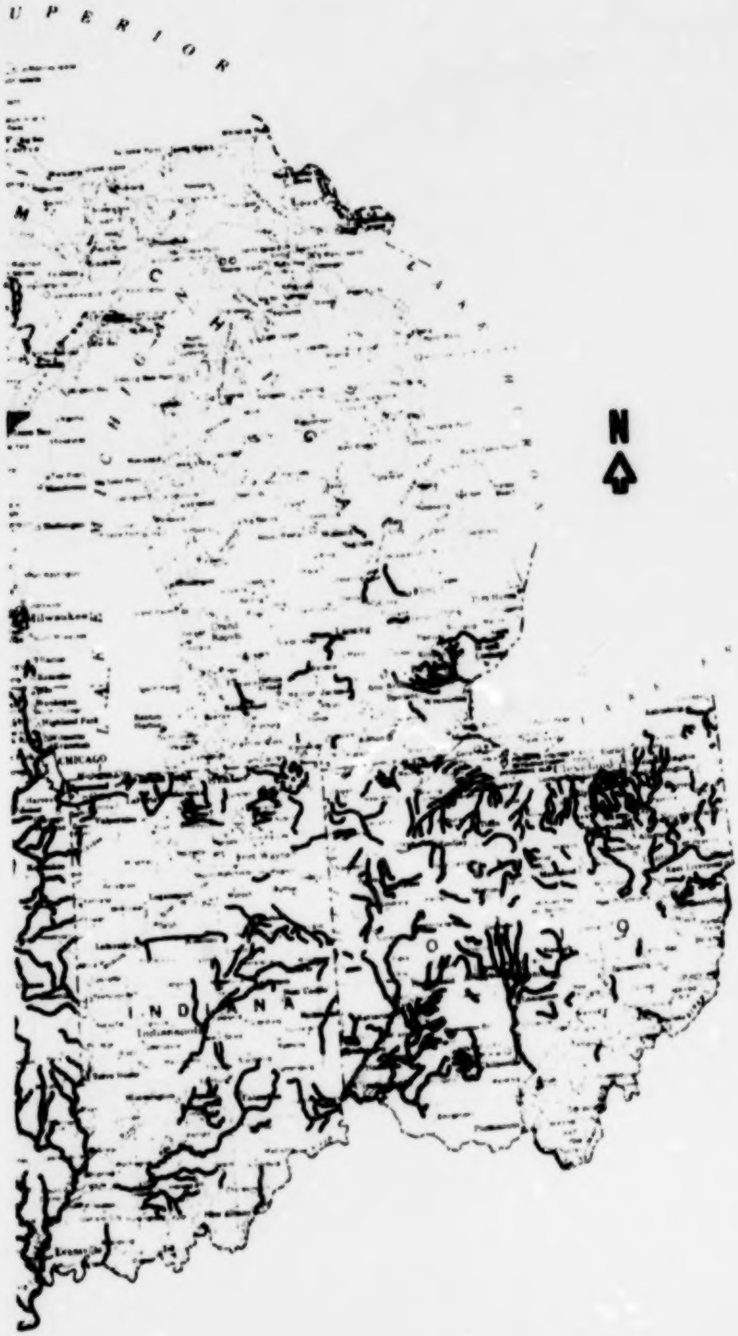
WISCONSIN
LAKE S
N

Figure A-5. Region V Water Quality Limited Stream Segments.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MICHIGAN
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CHICAGO
INDIANA
Indianapolis
OHIO
N

Figure A-5 continued. Region V Water Quality Limited Stream Segments.

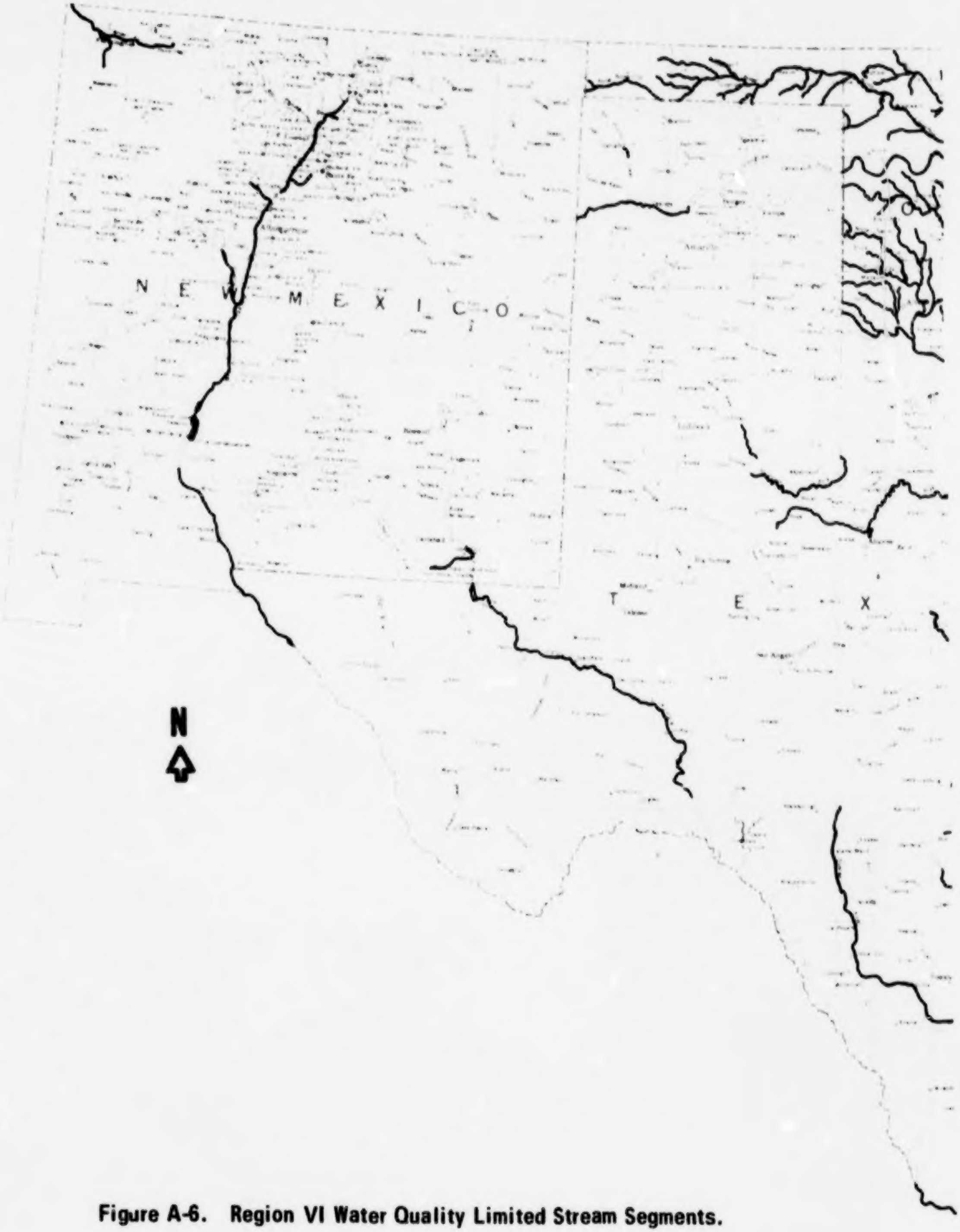
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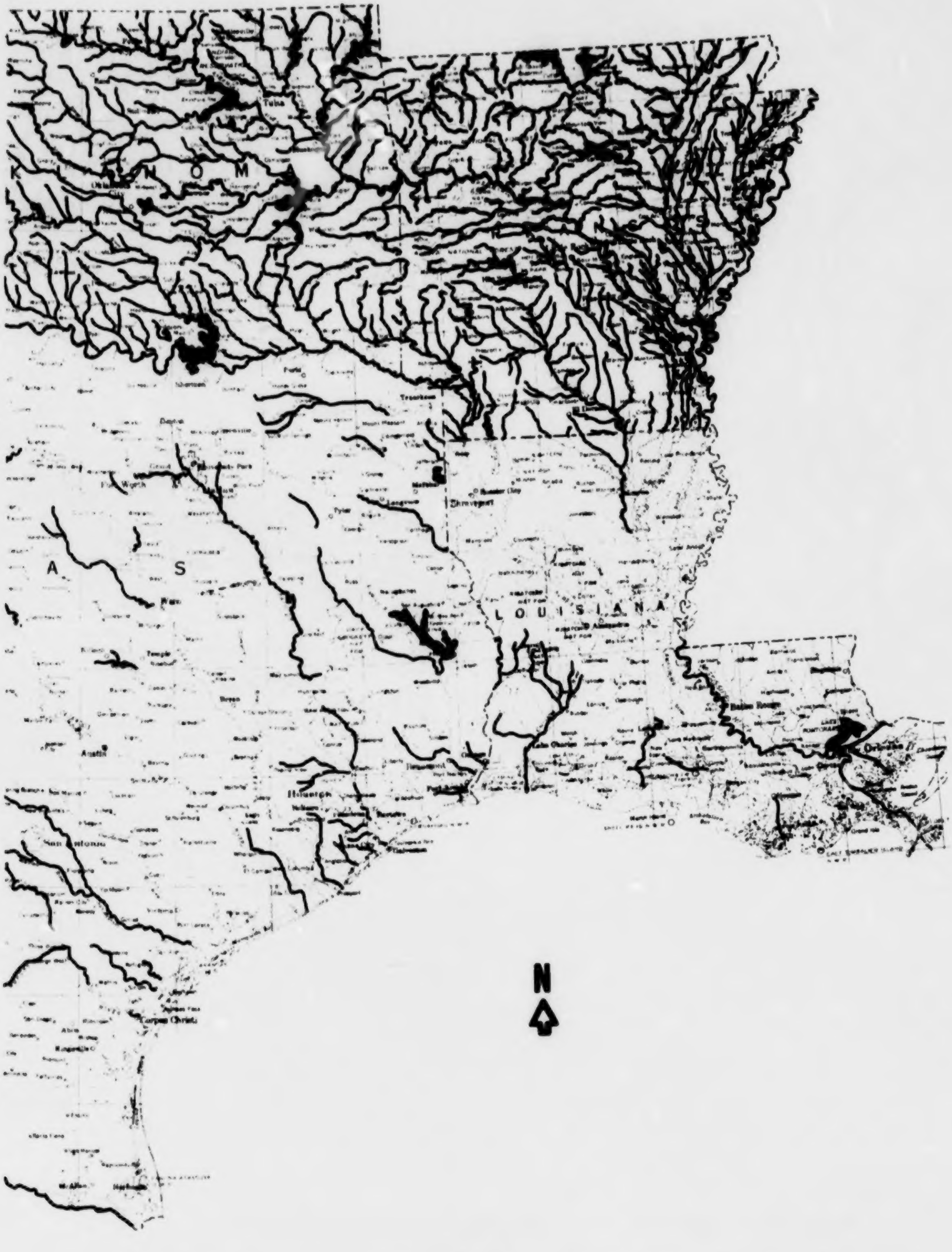
Figure A-6. Region VI Water Quality Limited Stream Segments.


O K L A H O M A
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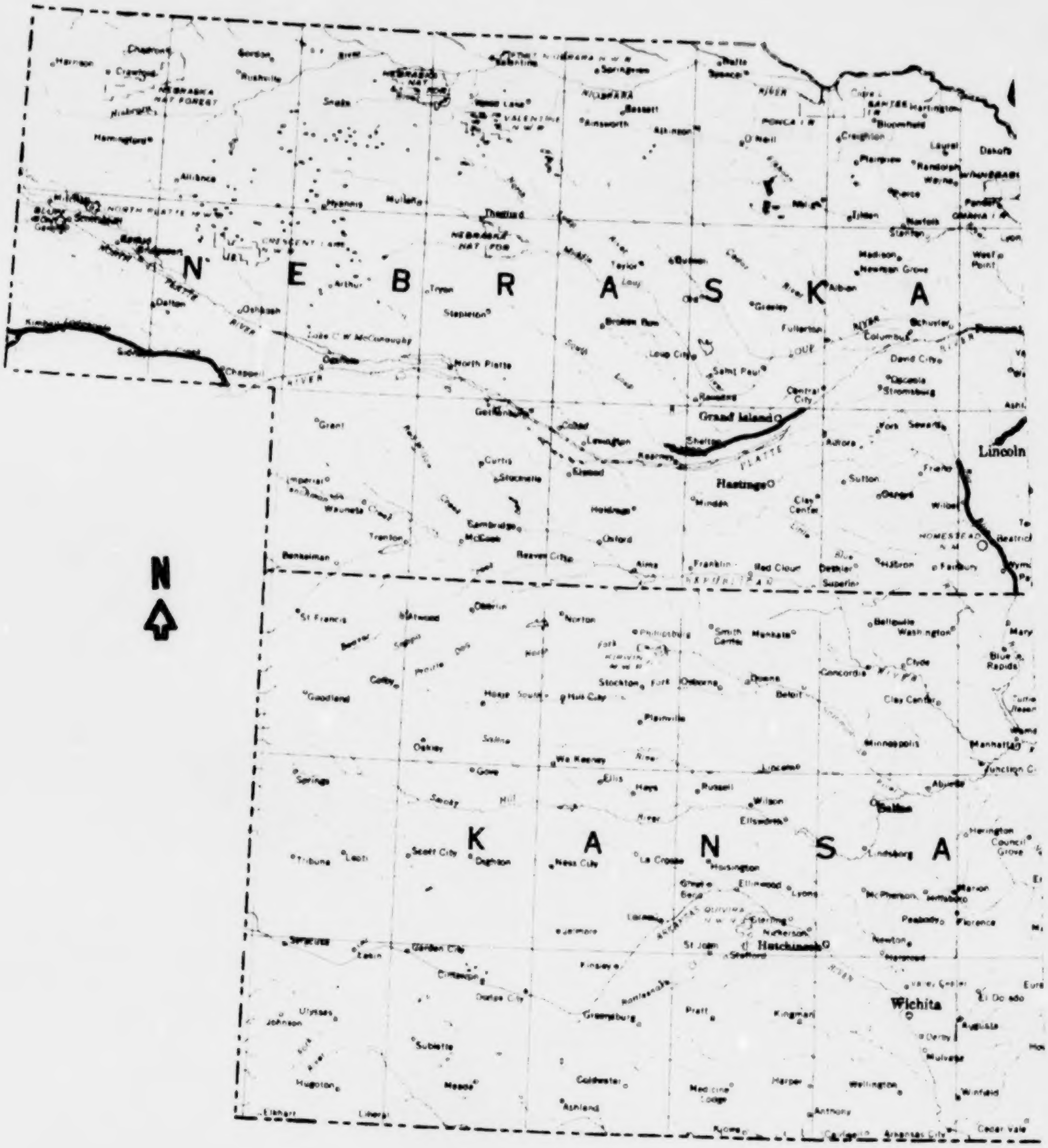
Shreveport
Houston
Austin
San Antonio
Corpus Christi
Baton Rouge
New Orleans

Figure A-6 continued. Region VI Water Quality Limited Stream Segments.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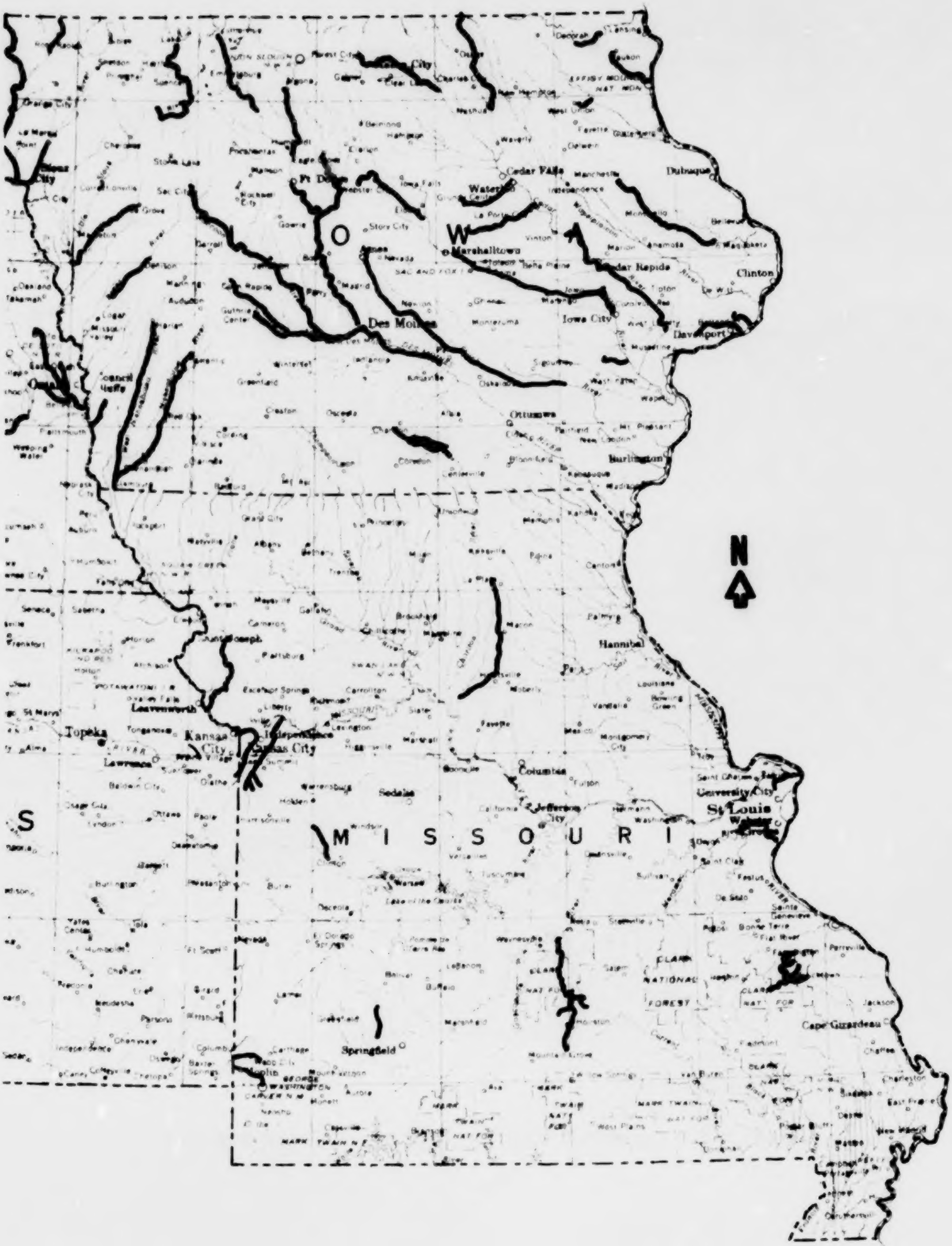
KANSAS
Lincoln
Grand Island
Hastings
North Platte
Wichita
Hutchinson

Figure A-7. Region VII Water Quality Limited Stream Segments.


I O W A
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Des Moines
Cedar Rapids
Iowa City
Davenport
Dubuque
Clinton
Burlington
Ottumwa
Marshalltown
Cedar Falls
Waterloo
Council Bluffs
Hannibal
Kansas City
Topeka
Lawrence
Leavenworth
St Joseph
Columbia
Jefferson City
Sedalia
St Louis
University City
Webster Groves
Springfield
Joplin
Cape Girardeau

Figure A-7 continued. Region VII Water Quality Limited Stream Segments.

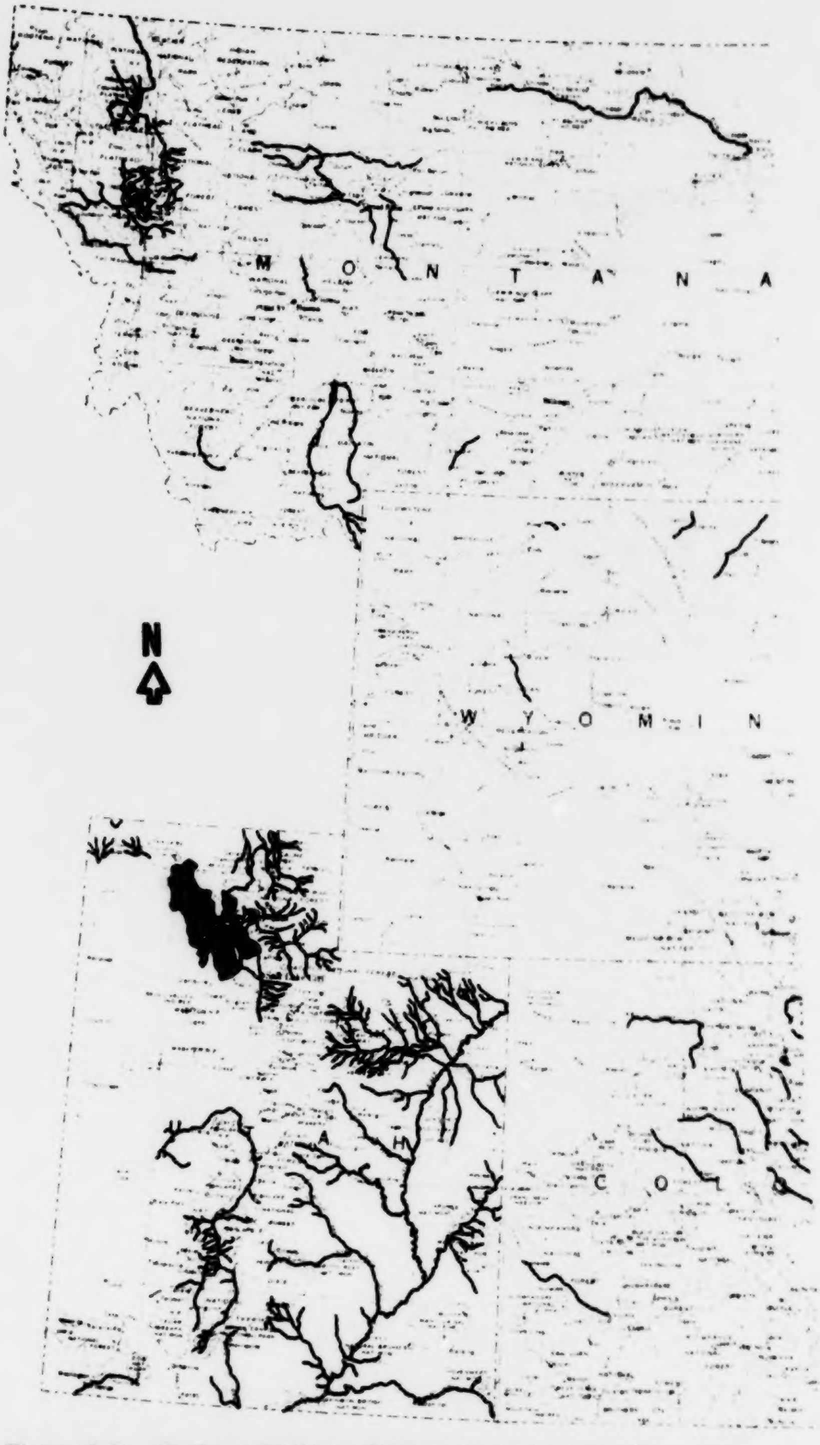
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Figure A-8. Region VIII Water Quality Limited Stream Segments.

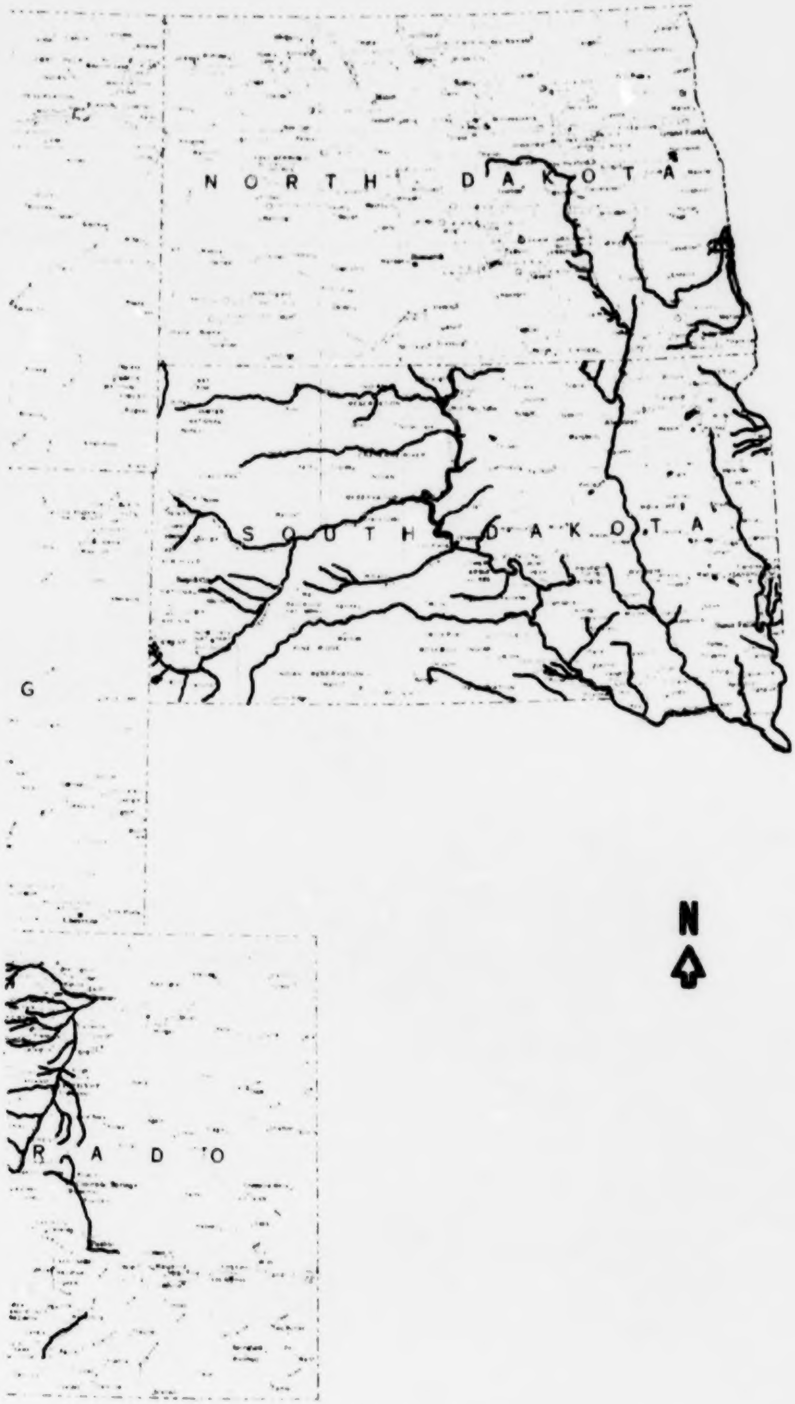
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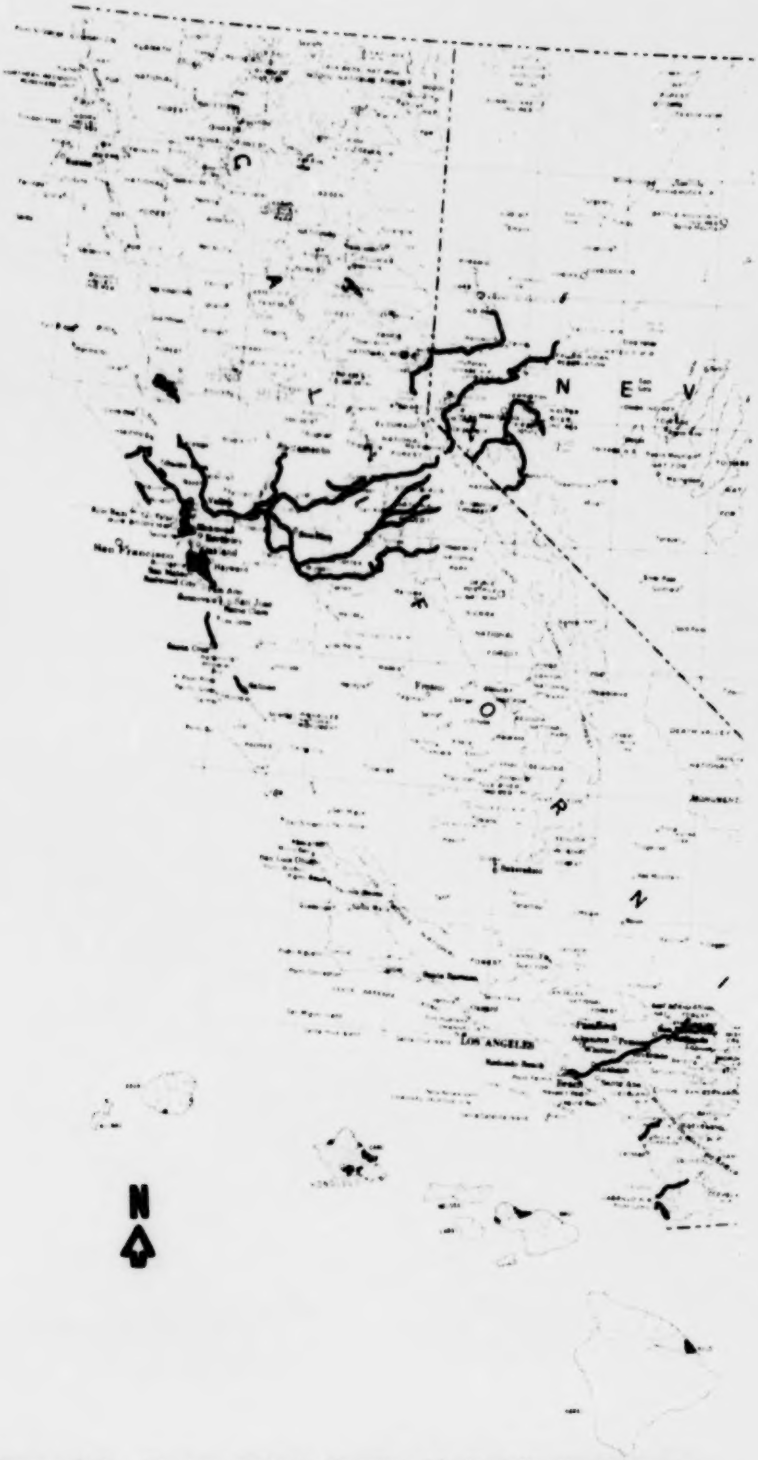
Figure A-8 continued. Region VIII Water Quality Limited Stream Segments.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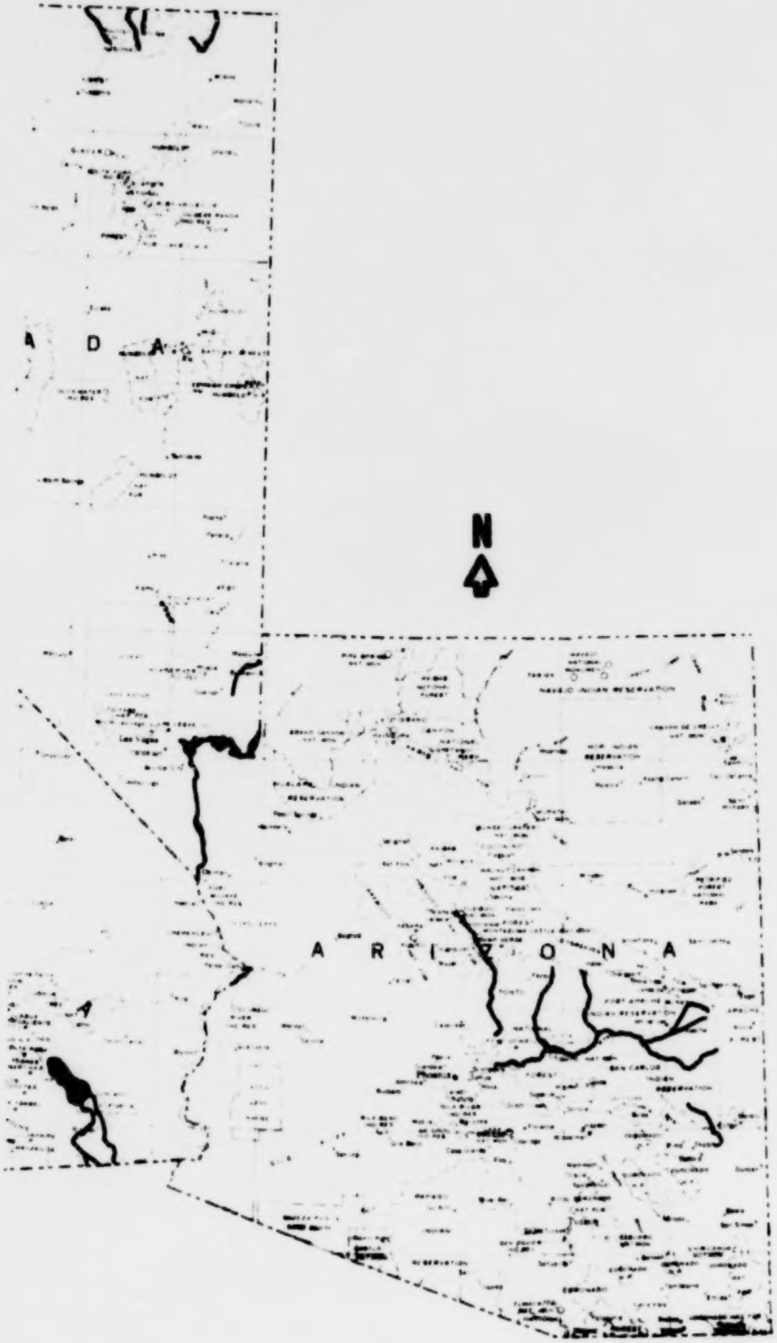
San Francisco
LOS ANGELES
N

Figure A-9. Region IX Water Quality Limited Stream Segments.


A D A
N
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NAVAJO INDIAN RESERVATION
SAN CARLOS INDIAN RESERVATION

Figure A-9 continued. Region IX Water Quality Limited Stream Segments.

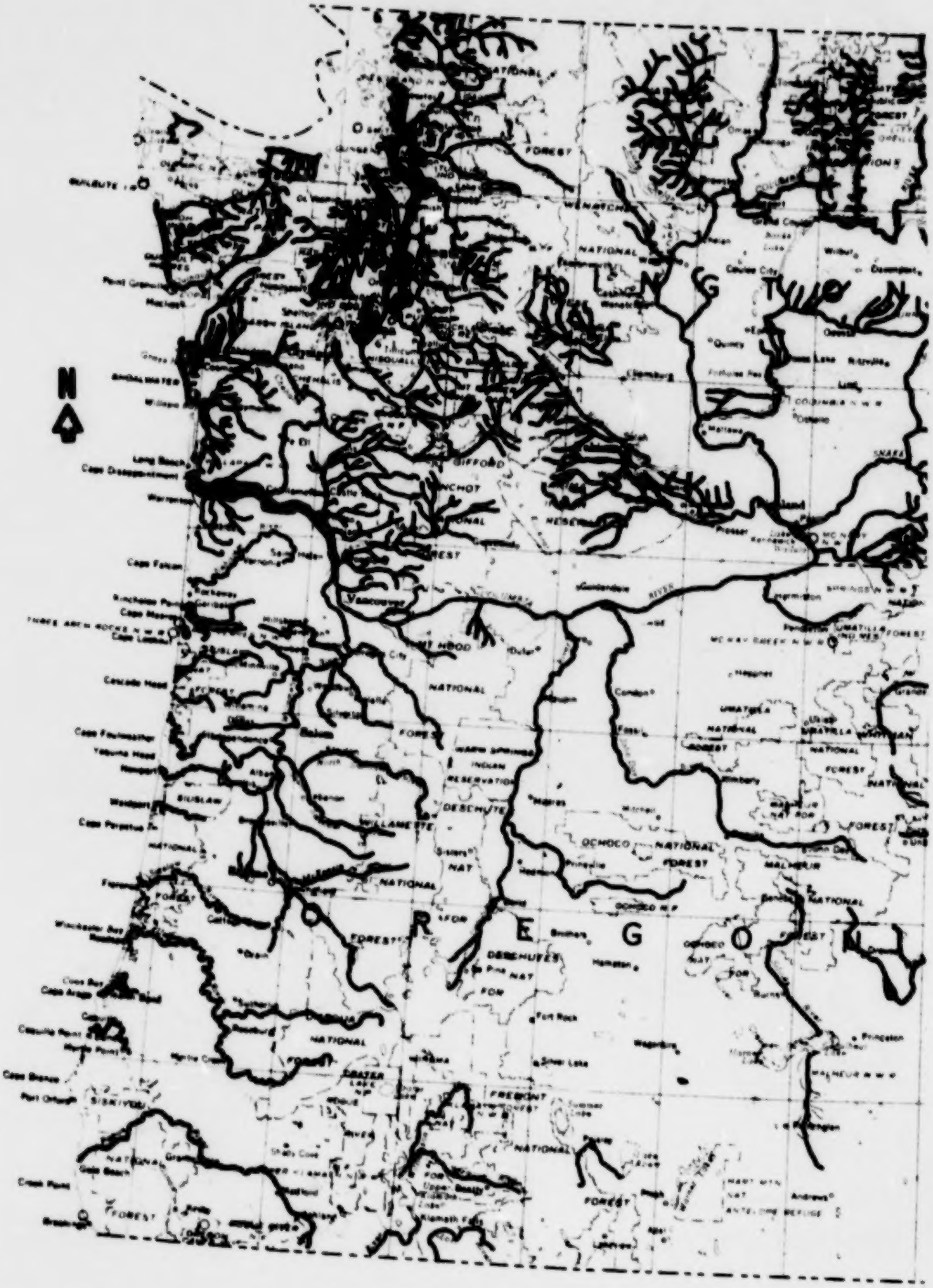
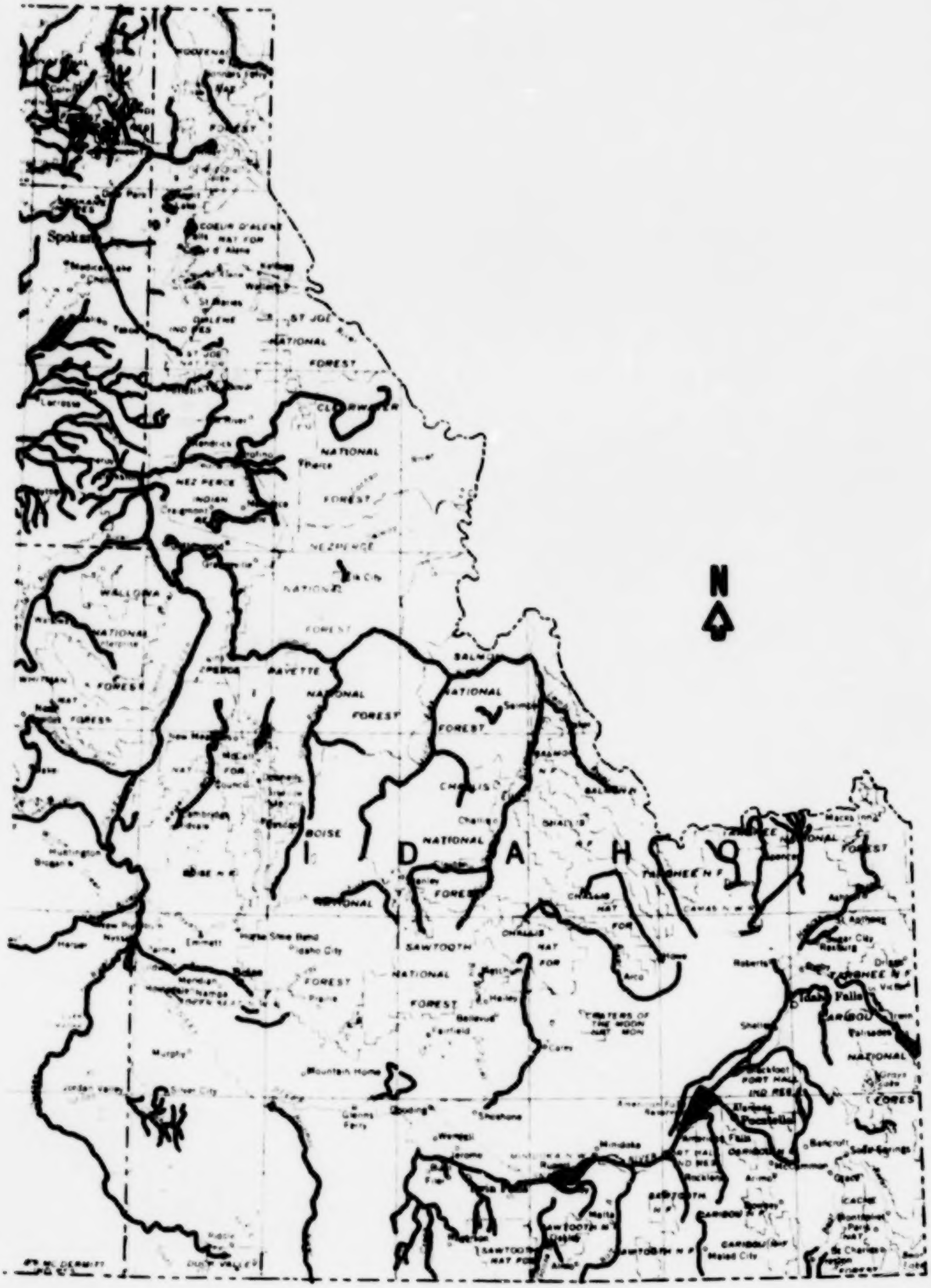

N
WENATCHEE
NATIONAL
FOREST
N G T O N
NISQUALLY
GIFFORD
PINCHOT
NATIONAL
FOREST
Vancouver
MT HOOD
NATIONAL
FOREST
WARM SPRINGS
INDIAN
RESERVATION
SIUSLAW
WILLAMETTE
NATIONAL
FOREST
DESCHUTES
OCHOCO
NATIONAL
FOREST
UMATILLA
NATIONAL
FOREST
MALHEUR
NATIONAL
FOREST
O R E G O N
DESCHUTES
NAT
FOR
SISKIYOU
NATIONAL
FOREST
FREMONT
NATIONAL
FOREST
MALHEUR N W R
Cape Blanco
Cape Falcon
Cascade Head
Cape Perpetua
Long Beach
Cape Disappointment
Klamath Falls

Figure A-10. Region X Water Quality Limited Stream Segments.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I D A H O
COEUR D'ALENE NAT FOR
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CLEARWATER NATIONAL FOREST
NEZ PERCE NATIONAL FOREST
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WALLOWA NATIONAL FOREST
PAYETTE NATIONAL FOREST
SALMON NATIONAL FOREST
CHALLIS NATIONAL FOREST
BOISE NATIONAL FOREST
SAWTOOTH NATIONAL FOREST
TARGHEE N F
CARIBOU NATIONAL FOREST
CRATERS OF THE MOON NAT MON
FORT HALL IND RES
Spokane
Mountain Home
Pocatello
Idaho Falls

Figure A-10 continued. Region X Water Quality Limited Stream Segments.

TABLE A1

REGION I

Connecticut - (CT)

Maine - (ME)

Massachusetts - (MA)

New Hampshire - (NH)

Rhode Island - (RI)

Vermont - (VT)

REGION I

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	CT	Housatonic	Sympaug Brook - Town of Bethel - STP to the mouth
2.	CT	Housatonic	Limekiln Brook - City of Danbury - STP to the mouth
3.	CT	Housatonic	Still River - from the confluence with Sympaug Brook
4.	CT	Housatonic	Lake Lillinonah - from dam forming Lake Lillinonah in Newtown to next upstream dam (main stem of Husatonic River)
5.	CT	Housatonic	Lake Zoar - dam forming Lake Zoar in Monroe to next upstream dam
6.	CT	Housatonic	Lake Housatonic - dam in Derby to next upstream day
7.	CT	Housatonic	Bantam Lake - inlet to outlet
8.	CT	Housatonic	Naugatuck River - from the city of Waterbury STP to the mouth
9.	CT	Housatonic	Lower Housatonic River - from confluence with Naugatuck River to Merrit Parkway Bridge
10.	CT	Western Connecticut Coastal	Norwalk Harbor
11.	CT	Central Connecticut Coastal	Bridgeport Harbor
12.	CT	Central Connecticut Coastal	Quinnipiac River - from town of Southington STP to tidewater
13.	CT	Central Connecticut Coastal	Quinnipiac River - from of tidewater to mouth
14.	CT	Central Connecticut Coastal	New Haven Harbor
15.	CT	Central Connecticut Coastal	Branford Harbor
16.	CT	Central Connecticut Coastal	Pequabuck River - Bristol Main Treatment Plant to mouth
17.	CT	Connecticut	Park River (North + South Branch)

No.	State	Basin	Description of Segment
18.	CT	Connecticut	Hockanum River - town of Vernon STP to mouth
19.	CT	Connecticut	Connecticut River - confluence with Farmington River to East Haddam Bridge
20.	CT	Connecticut	Mattabassett River - headwaters to Route 72 Bridge
21.	CT	Thames	Willimantic River - from Stanford Springs STP to I-86
22.	CT	Thames	Eagleview Lake - (main stem of Willimantic)
23.	CT	Thames	Shetucket River - from confluence with Natchau River to Route 203 Bridge
24.	CT	Thames	Aspinook Pond - (Mainstem Quinnebaug River)
25.	CT	Thames	Downstream from upstream dam. Located on Yantic and Shetucket Rivers to a line formed by extending the town boundary at Montville and Waterford across the Thames River. 24.5 on the Shetucket and 1.0 on the Yantic to 8.5 on the Thames

REGION I

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	ME	St. John	St. John River - Fraser Paper Co. outfall to U.S. Canada border
2.	ME	Presumpscot + Casco Bay	Presumpscot River - S.D. Warren Co. outfall to Presumpscot Falls
3.	ME	Piscotqua River	Mousam River - Stanford Sewage Lagoon outfall to head of tide
4.	ME	St. Croix	St. Croix River - Georgia Pacific outfall to head of tide
5.	ME	Kennebec + Sheepscot	East Branch Sebasticook River - outfall from Corinne STP to confluence with main steam Sebasticook River
6.	ME	Kennebec + Sheepscot	Sebasticook River - outfall from Hartland Tannery to confluence with Kennebec River
7.	ME	Androscoggin	Little Androscoggin River - A.C. Lawrence discharge to outlet of Thompson Lake
8.	ME	Penobscot	Penobscot River - confluence of Millinacket stream to Weldon Dam
9.	ME	St. John	Aroostook River - Washburn, Me. to U.S. Canada border
10.	ME	St. John	Prestile Stream - outfall from Vahlsing Inc. to US-Canada border
11.	ME	Southern Maine Coastal	Goosefore Brook - outfall from Maremont Corp. to head of high tide
12.	ME	Presumpscot + Casco Bay	Back Cove River - Portland

REGION I

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	MA	Housatonic	Housatonic River - 27.7-24.4 mile
2.	MA	Housatonic	Housatonic River - above 60.9 mile
3.	MA	Housatonic	Housatonic River - 56.9-45.0 mile
4.	MA	Deerfield	North River - Above 6.2 mile
5.	MA	Deerfield	Green River - Above 3.5 mile
6.	MA	Deerfield	Green River - 0.5-0.0 mile
7.	MA	Millers & Otter	Otter River - to 9.3 mile
8.	MA	Millers & Otter	Otter River - 9.3-5.1 mile
9.	MA	Millers & Otter	Otter River - 5.1-3.7 mile
10.	MA	Millers & Otter	Otter River - 3.7-0.0 mile
11.	MA	Millers & Otter	Millers River - to 35.0 mile
12.	MA	Millers & Otter	Millers River - 35.0-25.6 mile
13.	MA	Chicopee	Ware River - Above 26.4 mile
14.	MA	Chicopee	Ware River - 26.4-16.6 mile
15.	MA	Chicopee	Ware River - 14.5-0.0 mile
16.	MA	Chicopee	Quaboag River - Above 30.0 mile
17.	MA	Chicopee	Quaboag River - 30.0-24.0 mile
18.	MA	Chicopee	Quaboag River - 6.9-0.0 mile
19.	MA	Chicopee	Chicopee River - 17.9-0.0 mile
20.	MA	Chicopee	Dunn Brook - Above 3.2 mile
21.	MA	Chicopee	Dunn Brook - 3.2-0.0 mile
22.	MA	Chicopee	Swift River - Above 10.0 mile
23.	MA	Chicopee	Swift River - 10,0-0.0 mile
24.	MA	Westfield	Westifield River - Above 37.0 mile
25.	MA	Westifield	Westifeld River - 37.0-11.0 mile
26.	MA	Westfield	West Branch Westfield River - Above 9.4 mile

No.	State	Basin	Description of Segments
50.	MA	Taunton	Rumford River - 25.0-16.7 mile
51.	MA	Taunton	Wading River - 5.2-0.0 mile
52.	MA	Taunton	Three Mile River - 12.1-0.0 mile
53.	MA	Taunton	Mt. Hope Bay - westerly of a line drawn from Brayton pt. in Swansea to Buoy "4" in Mt. Hope Bay in R.I. and northerly from the MA-RI line
54.	MA	Taunton	Quequechan River - entire length
55.	MA	Taunton	Assonet River - entire length
56.	MA	Blackstone	Kottle Brook - to 57.4 mile
57.	MA	Blackstone	Kottle Brook - 57.4-49.0 mile
58.	MA	Blackstone	Middle River - 49.0-47.9 mile
59.	MA	Blackstone	Blackstone River - 47.9-20.0 mile
60.	MA	Blackstone	Quinsigamond River - to 6.7 mile
61.	MA	Blackstone	Quinsigamond River - 6.7-0.0 mile
62.	MA	Blackstone	West River - Above 9.6 mile
63.	MA	Blackstone	West River - 9.6-0.0 mile
64.	MA	Blackstone	Mumford River - to 12.4 mile
65.	MA	Blackstone	Mumford River - 12.40-0.0 mile
66.	MA	Blackstone	Mill River - to 10.5 mile
67.	MA	Blackstone	Mill River - 10.5-0.0 mile
68.	MA	Ten Mile R	Ten Mile R - to 20.0 mile
69.	MA	Ten Mile R	Ten Mile R - 20.0-15.9 mile
70.	MA	Ten Mile R	Ten Mile R - 15.9-11.6 mile
71.	MA	Ten Mile R	Ten Mile R - 11.6-8.2 mile
72.	MA	Ten Mile R	Ten Mile R - 8.2-0.0 mile
73.	MA	North R	North R - 23.4-13.4 mile

No.	State	Basin	Description of Segments
27.	MA	Westfield	West Branch Westfield River - 9.4-0.0 mile
28.	MA	Westfield	Little River - Above 4.7 mile
29.	MA	Westfield	Westfield Little River - 4.7-0.0 mile
30.	MA	Quinebaug	French River - to 25.0 mile
31.	MA	Quinebaug	French River - 25.0-21.7 mile
32.	MA	Quinebaug	French River - 21.7-7.4 mile
33.	MA	Quinebaug	French River - 7.4-0.0 mile
34.	MA	Quinebaug	French River - 7.4-0.0 mile
35.	MA	Quinebaug	Quinebaug River - to 18.8 mile
36.	MA	Quinebaug	Quinebaug River - 18.8-11.7 mile
37.	MA	Quinebaug	Quinebaug River - 11.7-7.5 mile
38.	MA	Quinebaug	Cady Brook River - to 6.1 mile
39.	MA	Quinebaug	Cady Brook River - 6.1-5.2 mile
40.	MA	Quinebaug	Cady Brook River - 5.2-0.0 mile
41.	MA	Taunton	Salisbury Plain River - entire length
42.	MA	Taunton	Matfield River - entire length
43.	MA	Taunton	Taunton River - 41.5-33.9 mile
44.	MA	Taunton	Nemasket River - entire length
45.	MA	Taunton	Taunton River - 33.9-18.5 mile
46.	MA	Taunton	Satucket & Tribs Rivers - entire length
47.	MA	Taunton	Town River & Tribs - entire length
48.	MA	Taunton	Saw Mill Brook - entire length
49.	MA	Taunton	Taunton River - 18.5-13.0 mile

No.	State	Basin	Description of Segments
74.	MA	Ipswich	Ipswich River - Above 32.0 mile
75.	MA	Ipswich	Ipswich River - 32.0-3.5 mile
76.	MA	Neponset	Neponset River - Above 29.5 mile
77.	MA	Neponset	Neponset River - 28.95-20.75 mile
78.	MA	Neponset	Neponset River - 20.75-15.8 mile
79.	MA	Neponset	Neponset River - 15.8-4.2 mile
80.	MA	Charles	Charles River - 78.9-64.3 mile
81.	MA	Charles	Mine Brook & Stop River - 64.3-51.8 mile
82.	MA	Charles	Stop River & Charles River - 51.8-49.2 mile
83.	MA	Charles	Charles River - 49.2-34.3 mile
84.	MA	Merrimack	Assabet River - to 31.8 mile
85.	MA	Merrimack	Assabet River - 31.8 to 31.0 mile
86.	MA	Merrimack	Assabet River - 31.0-25.0 mile
87.	MA	Merrimack	Assabet River - 25.0-16.8 mile
88.	MA	Merrimack	Assabet River - 16.8-7.1 mile
89.	MA	Merrimack	Assabet River - 7.1-0.0 mile
90.	MA	Merrimack	Sudbury River - to 17.1 mile
91.	MA	Merrimack	Sudbury River - 17.1-0.0 mile
92.	MA	Merrimack	Concord River - 15.0-5.0 mile
93.	MA	Merrimack	Concord River - 5.0-0.0 mile
94.	MA	Merrimack	Hop Brook River - entire length
95.	MA	Nashua	Nashua River - entire length
96.	MA	Nashua	Squannacook River - entire length

REGION I

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segments
1.	NH	Connecticut	Upper Ammenoosuc River - Groveton to Connecticut River
2.	NH	Connecticut	Connecticut River - mouth of upper Ammonoosuc to Comerford dam
3.	NH	Connecticut	So. Branch Ashuelot River - Troy to confluence with Ashuelot River
4.	NH	Connecticut	Ashuelot River - Keene to confluence with Connecticut River
5.	NH	Connecticut	Connecticut River - mouth of Ashuelot to Mass. stateline
6.	NH	Merrimack	Nashua River - Mass. state line to confluence with Merrimack River
7.	NH	Merrimack	MAD River - above Compton
8.	NH	Merrimack	Spicket River - Salem to Mass. state line
9.	NH	Piscataqua	Cocheco River - Dover to confluence with Piscataqua
10.	NH	Piscataqua	Piscataqua River - entire length
11.	NH	No Discharge Segments = All surface waters classified as Class A	

REGION I

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segments
1.	RI	Narragansett Bay	North Branch Pawtuxet River - 11.7-0.0 to 11.7-3 to confluence with main stem
2.	RI	Narragansett Bay	South Branch Pawtuxet River - 11.7-0.0 to 11.7-4 PT1 to confluence with main stem
3.	RI	Narragansett Bay	Pawtuxet River - 11.7-0.0 confluence of North & South branches to confluence with Providence River
4.	RI	Quinnipiac Pawcatuck and East Connecticut Coastal	Pawcatuck River - 16.4-12.4 mile

REGION I

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segments
1.	VT	Lower Lake Champlain	South Bay to Crown Point
2.	VT	Upper Lake Champlain	LaPlatte River - Shelburne to Lake Champlain
3.	VT	Upper Lake Champlain	Stevens Branch River - St. Albans to Lake Champlain
4.	VT	Upper Lake Champlain	Shelburne Bay
5.	VT	Upper Lake Champlain	Burlington Harbor
6.	VT	Upper Lake Champlain	St. Albans Bay
7.	VT	Upper Lake Champlain	Windmill Point area
8.	VT	Missiquoi	Mud Creek - Newport Center to Canada
9.	VT	Lamoille	Brewster River - Madonna Mt. Corp to Lamoille River
10.	VT	Winooski	Winooski River - Alder Br. to Lake Champlain
11.	VT	White	White River - Rochester to Third Branch
12.	VT	Ottauquechee	Ottauquechee River - Killington Rec area to Woodstock
13.	VT	West-Williahs-Saxton	No Name Br. - Magic Mt. Inc. to Londonderry
14.	VT	West-Williahs-Saxton	Mill Br. + Winhall River - Bromley Ski area to West River
15.	VT	West-Williahs-Saxton	No. Branch + Ball Mt. Br. - Stratton Crop West River
16.	VT	Deerfield	No Branch River - Snow Lake to Wilmington
17.	VT	Lower Conn R.	Conn R. - Ashuelot River to Mass. state line

No.	State	Basin	Description of Segments
18.	VT	Upper Conn. River	Conn. River - upper Ammonusuc to Comerford Dam
19.	VT	L. Memphremagog, Black, Clyde, Coaticool	Clyde River - Derby Ctr to L. Memphremagog
20.	VT	L. Memphremagog, Black, Clyde, Coaticool	L. Memphremagog River
21.	No discharge segments - all upland streams		

TABLE A2

REGION II

New Jersey - (NJ)

New York - (NY)

Puerto Rico - (PR)

Virgin Islands - (VI)

REGION II

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	PR	-	San Juan

REGION II

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
0.	VI	-	VI has no water quality stream segments

REGION II

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	NJ	N.J. Coast North River	North Coastal Waters
2.	NJ	N.J. Coast North River	North Inland Waters
3.	NJ	N.E. Metropolitan Area River	Freshwater Passaic River, above Little Falls
4.	NJ	N.E. Metropolitan Area River	Urban and Passaic River, Hackensack River and Newark Bay
5.	NJ	N.E. Metropolitan Area River	Arthur Kill Tributaries
6.	NJ	N.J. Coast South River	South Coastal Waters
7.	NJ	N.J. Coast South River	South Inland Waters
8.	NJ	Raritan River	Raritan River, Upstream of Calco Dam
9.	NJ	Raritan River	Lower Raritan River
10.	NJ	Raritan River	Raritan Bay Tributaries
11.	NJ	Raritan River	Raritan Bay
12.	NJ	Delaware River, Zone 1	Delaware River, Zone 1, Tributaries
13.	NJ	Delaware River, Zone 2	Delaware River, Zone 2, Mainstream
14.	NJ	Delaware River, Zone 2	Delaware River, Zone 2, Tributaries
15.	NJ	Delaware River, Zones 3&4	Delaware River, Zones 3 & 4, Mainstream
16.	NJ	Delaware River, Zones 3&4	Delaware River, Zones 3 & 4, Tributaries
17.	NJ	Delaware River, Zone 5	Delaware River, Zone 5, Tributaries
18.	NJ	Delaware River, Zone 5	Delaware River, Zone 5, Mainstream
19.	NJ	Delaware River, Zone 6	Delaware River, Zone 6, Tributaries
20.	NJ	Wallkill River	Wallkill Basin, All Waters

REGION II

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	NY	Lake Erie-Niagara River	Scajaquada Creek
2.	NY	Lake Erie-Niagara River	Tonawanda Creek
3.	NY	Lake Erie-Niagara River	Murder Creek
4.	NY	Lake Erie-Niagara River	Buffalo River
5.	NY	Lake Erie-Niagara River	Cazenovia Creek
6.	NY	Lake Erie-Niagara River	Big Sister Creek
7.	NY	Lake Erie-Niagara River	Chautaugua Creek
8.	NY	Allegheny River	Ischau Creek
9.	NY	Allegheny River	Oil Creek
10.	NY	Allegheny River	Little Valley Creek
11.	NY	Lake Ontario & Minor Tribs	Sandy Creek
12.	NY	Lake Ontario & Minor Tribs	Little Sodus Baytrib
13.	NY	Genesee River	Genesee R. (Barge Canal to L.Ontario)
14.	NY	Genesee River	Black Creek-Genesee River
15.	NY	Genesee River	Oatka Creek
16.	NY	Genesee River	Honeoye Creek
17.	NY	Genesee River	Van Campen Creek
18.	NY	Genesee River	Genesee River
19.	NY	Genesee River	Dyke Creek
20.	NY	Genesee River	Canaseraga Creek
21.	NY	Genesee River	Keshequa Creek
22.	NY	Chemung River	Alfred to below Canisteo
23.	NY	Chemung River	Below Bath to junction with Chemung River
24.	NY	Chemung River	Painted Post to State Line

No.	State	Basin	Description of Segment
25.	NY	Susquehanna River	Susquehanna River @ Cooperstown
26.	NY	Susquehanna River	Susquehanna River @ Oneonta
27.	NY	Susquehanna River	Canadarago Lake @ Richfield Springs
28.	NY	Susquehanna River	Tioughnioga River below Cortland
29.	NY	Susquehanna River	Chenango River from Morrisville to Oxford
30.	NY	Susquehanna River	Susquehanna River at Binghamton-Johnson City-Endicott
31.	NY	Seneca-Oneida-Oswego River	Onondaga Lake
32.	NY	Seneca-Oneida-Oswego River	Nine Mile Creek
33.	NY	Seneca-Oneida-Oswego River	Oneida Creek
34.	NY	Seneca-Oneida-Oswego River	Chittenango Creek
35.	NY	Seneca-Oneida-Oswego River	Oneida River
36.	NY	Seneca-Oneida-Oswego River	Canandaiqua Outlet
37.	NY	Seneca-Oneida-Oswego River	Canargua Creek
38.	NY	Seneca-Oneida-Oswego River	Red Creek
39.	NY	Seneca-Oneida-Oswego River	Flint Creek
40.	NY	Seneca-Oneida-Oswego River	West Creek
41.	NY	Seneca-Oneida-Oswego River	Seneca Canal
42.	NY	Seneca-Oneida-Oswego River	Simpson Creek
43.	NY	Seneca-Oneida-Oswego River	Crusoe Creek
44.	NY	Seneca-Oneida-Oswego River	Keuka Outlet
45.	NY	Seneca-Oneida-Oswego River	Owasco Inlet
46.	NY	Seneca-Oneida-Oswego River	Oswasco Outlet
47.	NY	Seneca-Oneida-Oswego River	Skaneateles Creek

No.	State	Basin	Description of Segment
48.	NY	St. Lawrence River	Elm Creek
49.	NY	St. Lawrence River	Indian River
50.	NY	St. Lawrence River	Hammond Brook
51.	NY	Mohawk	Upper Mohawk
52.	NY	Mohawk	Lower Mohawk
53.	NY	Mohawk	Cayadutta Creek
54.	NY	Mohawk	Cobleskill
55.	NY	Mohawk	Upper Schoharie
56.	NY	Mohawk	Oriskany
57.	NY	Lower Hudson	Troy to Mile Pt. 130
58.	NY	Lower Hudson	Above Croton Res.
59.	NY	Lower Hudson	*Moodna
60.	NY	Lower Hudson	Fishkill
61.	NY	Lower Hudson	Wappinger
62.	NY	Lower Hudson	Wallkill (Middleton-Montgomery)
63.	NY	Lower Hudson	Sanburg Creek
64.	NY	Lower Hudson	Above Rondout Res.
65.	NY	Lower Hudson	Above Ashokan Res.
66.	NY	Lower Hudson	Claverack Creek
67.	NY	Lower Hudson	Normanskill (Res. to Mouth)
68.	NY	Lower Hudson	*Bozenkill
69.	NY	Delaware	Sheldrake
70.	NY	Delaware	Neversink
71.	NY	Delaware	Beaverkill

No.	State	Basin	Description of Segment
72.	NY	Delaware	Upstream of Pepacton
73.	NY	Delaware	W. Br. Delaware
74.	NY	Delaware	Ramapo River

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[*] Stream segments that could not be located on map.

TABLE A3

REGION III

Delaware (DE)
District of Columbia (DC)
Maryland (MD)
Pennsylvania (PA)
Virginia (VA)
West Virginia (WV)

REGION III

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	DE	Delaware	Indian River
2.	DE	Delaware	Nanticoke
3.	DE	Delaware	Broadkill
4.	DE	Delaware	C & D Canal
5.	DE	Delaware	Red Lion
6.	DE	Delaware	Christina River

REGION III

No.	State	Basin	Description of Segment
1.	DC	Potomac River	Potomac Main Stem-DC-Mont.Cty.Line Downstream to Key Bridge
2.	DC	Potomac River	Potomac Main Stem-Key Br.Dwnstm. to PG.Cty.Line
3.	DC	Potomac River	Anacostia River-DC-PG Cty. Line Dwmstm. to Potomac Conf.
4.	DC	Potomac River	Rock Creek-DC Mtgy.Cty.Line Dwnstm. to Potomac Conf.
5.	DC	Potomac River	Oxon Run-DC-PG.Line at Miss S.F. To DC-PG Line Mar.Lut.King Ave., SE

REGION III

No.	State	Basin	Description of Segment
1.	PA	Delaware River	Schuylkill River-mouth to Phoenixville
2.	PA	Delaware River	Schuylkill River-Bridsboro to Maiden Creek
3.	PA	Delaware River	Wissahickon Creek
4.	PA	Delaware River	Perkiomen Creek
5.	PA	Delaware River	Valley Creek
6.	PA	Delaware River	Antietam Creek
7.	PA	Delaware River	Tulpehocken Creek
8.	PA	Delaware River	Maiden Creek
9.	PA	Delaware River	Neshaminy Creek
10.	PA	Delaware River	Pennypack Creek
11.	PA	Delaware River	Brandywine Creek
12.	PA	Delaware River	Chester Creek
13.	PA	Delaware River	Ridley Creek
14.	PA	Delaware River	Darby Creek
15.	PA	Delaware River	Lehigh River
16.	PA	Delaware River	Upper Delaware Tributaries
17.	PA	Delaware River	Lackawaxen River
18.	PA	Delaware River	Delaware Estuary
19.	PA	Susquehanna River	Susquehanna River
20.	PA	Susquehanna River	Juniata River
21.	PA	Susquehanna River	Codorus Creek
22.	PA	Susquehanna River	Conestoga Creek
23.	PA	Susquehanna River	Quittapahilla Creek
24.	PA	Susquehanna River	Conodoquinet Creek
25.	PA	Susquehanna River	Swatara Creek
26.	PA	Susquehanna River	Yellow Breeches Creek

No.	State	Basin	Description of Segment
27.	PA	Susquehanna River	Bald Eagle Creek
28.	PA	Susquehanna River	Pine Creek
29.	PA	Ohio River	Connoquenessing Creek
30.	PA	Ohio River	Ohio River
31.	PA	Ohio River	Monongahela River
32.	PA	Ohio River	Montour Run
33.	PA	Ohio River	Chartiers Creek
34.	PA	Ohio River	Pine Creek
35.	PA	Ohio River	Deer Creek
36.	PA	Ohio River	Plum Creek
37.	PA	Ohio River	Sandy Creek
38.	PA	Ohio River	Turtle Creek
39.	PA	Ohio River	Peters Creek
40.	PA	Ohio River	Sewickley Creek
41.	PA	Ohio River	Jacobs Creek
42.	PA	Ohio River	Redstone Creek
43.	PA	Ohio River	Tenmile Creek
44.	PA	Ohio River	French Creek
45.	PA	Ohio River	*Tunanquent Creek
46.	PA	Ohio River	Conneaut Lake Outlet
47.	PA	Ohio River	Bear Creek
48.	PA	Lake Erie	Elk Creek

*Stream segment that could not be located on map.

REGION III

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	MD	Lower Susquehanna River Area	Octoraro Creek drainage
2.	MD	Coastal Area	Atlantic Ocean
3.	MD	Coastal Area	Assawoman Bay drainage
4.	MD	Coastal Area	Isle of Wright Bay drainage
5.	MD	Coastal Area	Sinepuxent Bay drainage
6.	MD	Coastal Area	Newport Bay drainage
7.	MD	Coastal Area	Chincoteague Bay drainage
8.	MD	Nanticoke River Area	Wicomico River, mainstem
9.	MD	Chester River Area	Kent Island Narrows
10.	MD	Chester River Area	Chester River, mainstem
11.	MD	Chester River Area	Langford Creek drainage
12.	MD	Chester River Area	Corsica River drainage
13.	MD	Chester River Area	Other drainage of Chester River Area (directly to Chesapeake Bay)
14.	MD	Elk River Area	Sassafras River drainage
15.	MD	Elk River Area	Elk River, mainstem
16.	MD	Elk River Area	Bohemia River drainage
17.	MD	Elk River Area	Back Creek drainage
18.	MD	Elk River Area	Other drainage of Elk River
19.	MD	Elk River Area	Northeast River drainage
20.	MD	Elk River Area	Furnace Bay drainage
21.	MD	Elk River Area	Other drainage of Elk River Area
22.	MD	Elk River Area	Christina River drainage (Delaware)
23.	MD	Bush River Area	Bush River drainage
24.	MD	Bush River Area	Other drainage of Bush River Area

No.	State	Basin	Description of Segment
25.	MD	Gunpowder River Area	Gunpowder Falls drainage
26.	MD	Gunpowder River Area	Bird River drainage
27.	MD	Gunpowder River Area	Middle River drainage
28.	MD	Gunpowder River Area	Other drainage of Gunpowder River Area
29.	MD	Patapsco River Area	Back River drainage
30.	MD	Patapsco River Area	South Branch Patapsco River drainage
31.	MD	Patapsco River Area	Drainage to Inner Baltimore Harbor (Patapsco River)
32.	MD	Patapsco River Area	Outter Baltimore Harbor drainage (from straight line between Hawkins Point and Sollers Point to straight line between Rock Point and North Point including all tributaries)
33.	MD	West Chesapeake Bay Area	Mahothy River drainage
34.	MD	West Chesapeake Bay Area	Severn River drainage
35.	MD	Patuxent River Area	Patuxent River, mainstem
36.	MD	Patuxent River Area	Western Run (Branch) drainage
37.	MD	Patuxent River Area	Little Patuxent River drainage
38.	MD	Patuxent River Area	Middle Patuxent River drainage
39.	MD	Patuxent River Area	Other drainage of Patuxent River
40.	MD	Washington Metropolitan Area	Piscataway Creek drainage
41.	MD	Washington Metropolitan Area	Anacostia River drainage
42.	MD	Washington Metropolitan Area	Rock Creek drainage
43.	MD	Washington Metropolitan Area	Other drainage of Potomac River - Washington Metropolitan Area
44.	MD	North Branch Potomac River Area	Georges Creek drainage
45.	MD	North Branch Potomac River Area	Other drainage of Upper North Branch Potomac River

No.	State	Basin	Description of Segment
46.	MD	Youghiogheny River Area	Youghiogheny River drainage
47.	MD	Youghiogheny River Area	Deep Creek Lake Drainage
48.	MD	Youghiogheny River Area	Casselman River drainage

REGION III

No.	State	Basin	Description of Segment
1.	VA	Potomac-Shenandoah River	Abrams Creek - Entire stream except miles 10.7-7.3 which is E.L.
2.	VA	Potomac-Shenandoah River	Middle River - Main stream & Lewis Creek only
3.	VA	Potomac-Shenandoah River	Lewis Creek-Entire stream except miles 12.9-8.9 which is E.L.
4.	VA	Potomac-Shenandoah River	South River - Main only
5.	VA	Potomac-Shenandoah River	North Fork Shenandoah River-Main only
6.	VA	Potomac-Shenandoah River	Cedar Creek - Main only
7.	VA	Potomac-Shenandoah River	Shenandoah River - Main only (19.8-9.8)
8.	VA	Potomac-Shenandoah River	Shenandoah River - Main only (4.8-0.0)
9.	VA	Potomac-Shenandoah River	Dog Run-Entire stream except 7.2-4.8 which is E.L.
10.	VA	Potomac-Shenandoah River	Goose Creek - Main only
11.	VA	Potomac-Shenandoah River	Tuscarora Creek-Entire stream except 4.8-21 which is E.L.
12.	VA	Potomac-Shenandoah River	Potomac River - Main only
13.	VA	Potomac-Shenandoah River	Accotink Creek - Main only
14.	VA	Potomac-Shenandoah River	Occoquan Creek-Main & all tributaries
15.	VA	James River	Jackson River - Main only
16.	VA	James River	James River - Main only (434.4-420.0)
17.	VA	James River	Maury River - Main only
18.	VA	James River	James River-Main only (271.6-225.0)
19.	VA	James River	Piney River - Main only
20.	VA	James River	Mechum River-Main & Lickinghole Creek only
21.	VA	James River	Lickinghole Creek - Main only
22.	VA	James River	Rivanna River - Main only

No.	State	Basin	Description of Segment
23.	VA	James River	James River-Main & Appomattox only (115.0-60.5)
24.	VA	James River	Appomattox - Main only (107.0-97.3)
25.	VA	James River	Appomattox - Main only (30.1-0.0)
26.	VA	James River	Chicahominy River - Main only
27.	VA	James River	James River-Main & Nansemond & Pagan Rivers
28.	VA	James River	Pagan River - Main only
29.	VA	James River	Nansemond River - Main only
30.	VA	Rappahannock River	Carter Run - Main only
31.	VA	Rappahannock River	Great Run - Main only
32.	VA	Rappahannock River	Mt. Run - Main only
33.	VA	Rappahannock River	Rappahannock River - Main only
34.	VA	Rappahannock River	Hoskins Creek - Main only
35.	VA	Rappahannock River	Totuskey Creek - Main only
36.	VA	Rappahannock River	Urbanna Creek - Main only
37.	VA	Rappahannock River	Carter Creek - Main only
38.	VA	Roanoke River	Roanoke River - Main only
39.	VA	Roanoke River	Big Otter River-Main & Little Otter & John's Creek only
40.	VA	Roanoke River	Little Otter River-Main & Johns Creek
41.	VA	Roanoke River	Johns Creek - Main only
42.	VA	Roanoke River	Smith River - Main only
43.	VA	Roanoke River	Dan River - Main only
44.	VA	Chowan River-Dismal Swamp	Nottoway River-Main & Chetocric Swamp only
45.	VA	Chowan River-Dismal Swamp	Chetocric Swamp - Main only
46.	VA	Chowan River-Dismal Swamp	Blackwater River - Main only

No.	State	Basin	Description of Segment
47.	VA	Tennessee-Big Sandy River	Wolf Creek-Main only except 12.2-9.7
48.	VA	Tennessee-Big Sandy River	Middle Fork Holston - Main only
49.	VA	Tennessee-Big Sandy River	North Fork Holston - Main only
50.	VA	Tennessee-Big Sandy River	Clinch River - Main only
51.	VA	Tennessee-Big Sandy River	Beaver Creek - Main only
52.	VA	Tennessee-Big Sandy River	N.F. Pound River - Main only
53.	VA	Tennessee-Big Sandy River	S.F. Pound River - Main only
54.	VA	Tennessee-Big Sandy River	Pound River - Main only(20.0-34.6)
55.	VA	Tennessee-Big Sandy River	Pound River - Main & tributaries(0.0-20.0)
56.	VA	Tennessee-Big Sandy River	Levisa Fork - Main only
57.	VA	Tennessee-Big Sandy River	Stock Creek - Main only
58.	VA	Small Coastal River	Back River - Main only
59.	VA	Small Coastal River	Little Creek - Main only
60.	VA	Small Coastal River	Lynnhaven River - Main only
61.	VA	Small Coastal River	W.B.Lynnhaven River - Main only
62.	VA	Small Coastal River	E.B. Lynnhaven River - Main only
63.	VA	Small Coastal River	Broad Bay - Main only
64.	VA	Small Coastal River	Onancock Creek - Main only
65.	VA	Small Coastal River	Pungoteague Creek - Main only
66.	VA	Small Coastal River	Occohannock - Main only
67.	VA	Small Coastal River	Elizabeth River - All Branches
68.	VA	York River	Gold Mine Creek - Main only
69.	VA	York River	Contrary Creek - Main only
70.	VA	York River	South Anna River - Main only

No.	State	Basin	Description of Segment
71.	VA	York River	Pamunkey River - Main only
72.	VA	York River	Mattaponi River - Main only
73.	VA	York River	York River - Main only
74.	VA	York River	Carter Creek - Main only
75.	VA	York River	King Creek - Main only
76.	VA	New River	Peak Creek - Main only
77.	VA	New River	New River - Main & Crab Creek & Stroubles Creek
78.	VA	New River	Crab Creek - Main only
79.	VA	New River	Stroubles Creek - Main only

REGION III

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	WV	Kanawha River	Kanawha Mainstem from Chelyan to Mouth
2.	WV	Kanawha River	Coal - Little Coal Headwaters
3.	WV	Kanawha River	Coal - Little Coal and Tributaries
4.	WV	Kanawha River	Pocatalico River from Mouth to Sissonville & Rocky Fork
5.	WV	Kanawha River	Bluestone River VA-WV Line to Below Bluefield
6.	WV	Kanawha River	Greenbrier River from Frank to Cass
7.	WV	Kanawha River	Select Tribs to Kanawha River
8.	WV	Kanawha River	Elk River from Mouth to Clendenin
9.	WV	Kanawha River	Howards Creek Below White Sulphur Springs
10.	WV	Kanawha River	Leatherwood & Bergoo Creek above Webster Springs
11.	WV	Kanawha River	Big Ditch Run Below Cowan
12.	WV	Kanawha River	Dunloup Ck Blw Mt. Hope; Wolf Ck Blw Fayettev; Arbuckle Ck Blw Oak Hill
13.	WV	Kanawha River	East River from Mouth to Headwaters
14.	WV	Kanawha River	Sewell Ck Below Rainelle & Meadow River Below Rupert
15.	WV	Kanawha River	Cherry River Below Richwood
16.	WV	Kanawha River	Piney Creek Below Buckley
17.	WV	Potomac River	Select Tribs to N. Branch of Potomac
18.	WV	Monongahela River	Monongahela, W. Fork, L Tycart Valley & L Cheat R & Tribs
19.	WV	Monongahela River	Shavers Fork from Mouth to Headwaters

No.	State	Basin	Description of Segment
20.	WV	Ohio River	Ohio River Mainstream
21.	WV	Ohio River	Wheeling Creek
22.	WV	Ohio River	Harmon Creek
23.	WV	Ohio River	Short Creek
24.	WV	Little Kanawha River	L. Kanawha Mainstream - mouth to FMC
25.	WV	Little Kanawha River	Guyandot R. & tribs. not affected by acid mine drainage
26.	WV	Little Kanawha River	Selected tributaries to Guyandot River
27.	WV	Little Kanawha River	Big Sandy River & tributaries; Tug Fork River & tributaries
28.	WV	Little Kanawha River	Spring Creek below Spencer
29.	WV	Little Kanawha River	Selected tributaries to Little Kanawha River
30.	WV	Little Kanawha River	Laurel Creek below Athens & Brush Creek below Princeton

TABLE A4

REGION IV

Alabama - (AL)

Florida - (FL)

Georgia - (GA)

Kentucky - (KY)

Mississippi - (MS)

North Carolina - (NC)

South Carolina - (SC)

Tennessee - (TN)

REGION IV

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	GA	Upper Ocmulgee	*Entrenchment-Snapfinger Creeks
2.	GA	Upper Ocmulgee	*Beaver Ruin Creek
3.	GA	Upper Ocmulgee	South River
4.	GA	Upper Ocmulgee	Yellow River
5.	GA	Flint	Flint R-Headwaters to Ga. Hwy. 92
6.	GA	Chattahoochee	Chatt R-Atlanta to Franklin
7.	GA	Coosa	Coosa River
8.	GA	Coosa	Conasauga River

NOTE:

Georgia has not completed their stream classification but the regional water quality coordinator estimates there will be 86 water quality limited segments.

*Stream segments that could not be located on map.

REGION IV

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	AL	Alabama	Catoma C.
2.	AL	Alabama	Bear C.
3.	AL	Alabama	Hudson Br.
4.	AL	Cahaba	Shades C.
5.	AL	Cahaba	Buck C.
6.	AL	Cahaba	Cahaba River
7.	AL	Cahaba	Patton C.
8.	AL	Cahaba	Little Cahaba R.
9.	AL	Cahaba	Cahaba R.
10.	AL	Choctawhatchee	Sandy C.
11.	AL	Choctawhatchee	Corner C.
12.	AL	Choctawhatchee	Trib. to Pea R.
13.	AL	Choctawhatchee	Mossy Camp Br.
14.	AL	Choctawhatchee	Harrison Mill C.
15.	AL	Choctawhatchee	Double Bridges
16.	AL	Choctawhatchee	Blanket C.
17.	AL	Choctawhatchee	Beaver C.
18.	AL	Choctawhatchee	Pea C.
19.	AL	Choctawhatchee	Cox Mill C.
20.	AL	Choctawhatchee	Hurricane C.
21.	AL	Choctawhatchee	Faulk C.
22.	AL	Choctawhatchee	Trib. to Hurricane C.
23.	AL	Choctawhatchee	Walnut C.
24.	AL	Choctawhatchee	Lindsey C.
25.	AL	Choctawhatchee	Mims C.

No.	State	Basin	Description of Segment
26.	AL	Coosa	Dye C.
27.	AL	Coosa	Griffin Br.
28.	AL	Coosa	Shirtee C.
29.	AL	Coosa	Trib. to Shirtee
30.	AL	Coosa	Coosa R.
31.	AL	Coosa	Cane C.
32.	AL	Coosa	Choccolocco C.
33.	AL	Coosa	Unnamed Trib. to Talassee-Hatchee
34.	AL	Coosa	Coosa R.
35.	AL	Coosa	Coosa R.
36.	AL	Coosa	Coosa R.
37.	AL	Lower Tombigbee	Tombigbee R.
38.	AL	Lower Tombigbee	Tributary to Mill C.
39.	AL	Lower Tombigbee	Trib. to Wahalak
40.	AL	Mobile	Three Mile C.
41.	AL	Mobile	Bayou Coden
42.	AL	Mobile	Chickasaw C., Hog Bayou
43.	AL	Mobile	Bayou La Batre
44.	AL	Mobile	Mobile Bay
45.	AL	Mobile	Mobile R.
46.	AL	Mobile	Corn Br.
47.	AL	Mobile	Norton C.
48.	AL	Perdido-Escambia	Hollinger C.
49.	AL	Perdido-Escambia	Double Br.
50.	AL	Perdido-Escambia	Bay Branch
51.	AL	Perdido-Escambia	Indian C.
52.	AL	Perdido-Escambia	Rocky C.

No.	State	Basin	Description of Segment
53.	AL	Tallapoosa	Horsetrough C.
54.	AL	Tallapoosa	Sougahatchee C.
55.	AL	Tallapoosa	Pepperell Br.
56.	AL	Tallapoosa	Trib. to Uphapee C.
57.	AL	Tallapoosa	Town C.
58.	AL	Tallapoosa	Calabee C.
59.	AL	Tallapoosa	Parkerson Mill C.
60.	AL	Tallapoosa	High Pine C.
61.	AL	Tennessee	Turkey C.
62.	AL	Tennessee	East Fork - Drum Cr.
63.	AL	Tennessee	Mud Cr.
64.	AL	Tennessee	Huntsville Sp. Br.
65.	AL	Tennessee	Pond C.
66.	AL	Tennessee	Flint C.
67.	AL	Tennessee	Indian Creek
68.	AL	Tennessee	Crow Br.
69.	AL	Tennessee	Shoal C.
70.	AL	Tennessee	Flat C.
71.	AL	Tennessee	Gilliam C.
72.	AL	Warrior	Valley C.
73.	AL	Warrior	Village C.
74.	AL	Warrior	Five Mile C.
75.	AL	Warrior	Brindle C.
76.	AL	Warrior	Black Warrior R.
77.	AL	Warrior	Graves C.

No.	State	Basin	Description of Segment
78.	AL	Warrior	Graves C.
79.	AL	Warrior	Copeland C.
80.	AL	Warrior	Cane C.
81.	AL	Warrior	Colwell C.
82.	AL	Warrior	Slab C.

REGION IV

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	FL	St. Johns River	Deep and Cow Creeks
2.	FL	St. Johns River	Econlockhatchee River confluence to Wekiva River confluence
3.	FL	St. Johns River	Big and Little Wekiva Rivers
4.	FL	St. Johns River	*Lakes Jessup and Howell; Gee, Howell, and Howell Branch
5.	FL	St. Johns River	Big and Little Econlockhatchee River
6.	FL	St. Johns River	Lake Washington Dam to confluence with Econlockhatchee River
7.	FL	St. Johns River	Headwaters to Lake Washington Dam
8.	FL	St. Johns River	Lower Oklawaha River from Lake Griffin to St. Johns River
9.	FL	St. Johns River	Eastern Alachua County
10.	FL	St. Johns River	Western Marion County
11.	FL	St. Johns River	*Upper Oklawaha and Palatlakaha Rivers
12.	FL	St. Johns River	Mouth of St. Johns River to Duval County Line
13.	FL	St. Johns River	Julington and Durbin Creeks
14.	FL	St. Johns River	Yellow Waters, Black, Peters, Ates, and Greens Creeks and Lakes Kingsley, Sandhill, and Geneva
15.	FL	St. Johns River	Rice, Etonia and Sims Creeks
16.	FL	St. Johns River	*Cresent Lake, Haw, Little Haw and Dunn's Creek
17.	FL	Florida East Coast	Tomoka Basin to Ponce de Leon Inlet
18.	FL	Florida East Coast	Ponce de Leon Inlet to south end of Mosquito Lagoon
19.	FL	Florida East Coast	North end of Indian River to State Road 404
20.	FL	Florida East Coast	State Road 404 to Sebastian Inlet

No.	State	Basin	Description of Segment
21.	FL	Kissimmee	Lake Kissimmee outflow to Lake Okeechobee (C-38)
22.	FL	Kissimmee	Alligator Chain of Lakes and Lakes Cypress, Hatchineha and Kissimmee
23.	FL	Kissimmee	Reedy and Davenport Creeks
24.	FL	Kissimmee	Shingle Creek Area
25.	FL	Kissimmee	East and Big Lakes Tohopekeliga & Boggy Creek
26.	FL	Kissimmee	Highlands - Glades County Canals
27.	FL	Kissimmee	Ridge Lakes in Polk and Highlands Counties
28.	FL	Kissimmee	Fisheating Creek - Highlands & Glades Counties
29.	FL	Kissimmee	Nubbins Slough and Taylor Creek - Okeechobee County
30.	FL	Lower Florida	Eastern Okeechobee, Southern St. Lucie, and Northern Martin Counties
31.	FL	Lower Florida	Southern Martin and Northern Palm Beach Counties including the St. Lucie Canal
32.	FL	Lower Florida	Lake Okeechobee
33.	FL	Lower Florida	St. Lucie Inlet to Juno including Lake Worth Creek, Loxahatchee and the Hobe Sound Estuaries
34.	FL	Lower Florida	Juno to South Lake Worth Inlet including Eastern Palm Beach County
35.	FL	Lower Florida	Area South of Lake Okeechobee to Palm Beach County Line, including West Palm Beach, Hillsborough, North New River and Miami Canals
36.	FL	Lower Florida	Southern Palm Beach County Metro Area
37.	FL	Lower Florida	Caloosahatchee River from Olga to Gulf of Mexico, including Orange River and Trout Creeks

No.	State	Basin	Description of Segment
38.	FL	Lower Florida	Caloosahatchee River from Moore Have to Olga
39.	FL	Lower Florida	Southern Lee County from North of Fort Myers Beach to Wiggins Pass
40.	FL	Lower Florida	Northern Broward County Metro Area
41.	FL	Lower Florida	Southern Broward County Metro Area
42.	FL	Lower Florida	Central Part of Everglades including Central Parts of Hillsborough, North New River, Miami, and South New River Canals
43.	FL	Lower Florida	Wiggins Pass South to Johns Pass including Lake Trafford, parts of Corkscrew and Big Cypress Swamp
44.	FL	Lower Florida	Immokalee and Barren River Canal to Estuary between John Pass and Chokoloskee Bay including the Fakahatchee Strand and parts of the Tamiami Canal
45.	FL	Lower Florida	Hendry - Collier County Line to Boundary of Everglades National Park including Okaloocoochee Slough, Deep Lake Strand, and part of Tamiami Canal
46.	FL	Lower Florida	Florida Keys
47.	FL	Lower Florida	Eastern Dade County Metro Area
48.	FL	Lower Florida	Northern Dade County Metro Area
49.	FL	Lower Florida	Everglades National Park and Florida Bay Estuaries
50.	FL	Suwannee	Santa Fe River
51.	FL	Withlacoochee	Lower Withlacoochee River
52.	FL	Withlacoochee	Upper Withlacoochee River
53.	FL	Apalachicola	Lower Apalachicola River
54.	FL	Apalachicola	Chipola River
55.	FL	Choctawhatchee	Coastal Area between Choctawhatchee River and Yellow River

No.	State	Basin	Description of Segment
56.	FL	Choctawhatchee	Choctawhatchee River below Pea River
57.	FL	Choctawhatchee	Coastal Area between Choctawhatchee River and Beacon Hill
58.	FL	Choctawhatchee	St. Joseph's Bay
59.	FL	Peace River	Pine Island Sound - Matlacha Pass Area
60.	FL	Peace River	Charlotte Harbor
61.	FL	Peace River	Lower Peace River
62.	FL	Peace River	Middle Reaches of Peace River from Arcadia to Bowlegs Creek
63.	FL	Peace River	Peace River from Bowlegs Creek to Bartow
64.	FL	Peace River	Headwaters of Peace River upstream from Bartow
65.	FL	Peace River	Myakka River
66.	FL	Tampa Bay Area	Coastal Area from Hernando - Pasco County Line to Anclote River
67.	FL	Tampa Bay Area	Rocky Creek Area (coastal area in north part of Old Tampa Bay)
68.	FL	Tampa Bay Area	Coastal Area from Anclote River to Treasure Island
69.	FL	Tampa Bay Area	North - Northwest Portion of Tampa Bay
70.	FL	Tampa Bay Area	Coastal Area between Alafia River and Manatee River
71.	FL	Tampa Bay Area	Manatee River
72.	FL	Tampa Bay Area	Phillippi Creek and Coastal Area from Longboat Key to Midnight Pass
73.	FL	Tampa Bay Area	Coastal Area from Midnight Pass to Myakka River
74.	FL	Tampa Bay Area	Alafia River Basin
75.	FL	Tampa Bay Area	Upper Hillsborough River

No.	State	Basin	Description of Segment
76.	FL	Tampa Bay Area	Lower Hillsborough River
77.	FL	Aucilla Ochlocknee St. Marks	Coastal Area between Ochlockonee River & Apalachicola River
78.	FL	Aucilla Ochlocknee St. Marks	Ochlockonee River and Sopchoppy River Basin and Coastal Area
79.	FL	Aucilla Ochlocknee St. Marks	Lake Jackson Drainage Basin
80.	FL	Aucilla Ochlocknee St. Marks	St. Marks River Basin
81.	FL	Aucilla Ochlocknee St. Marks	Lake Munson Drainage Basin
82.	FL	Aucilla Ochlocknee St. Marks	Lake Lafayette Drainage Basin
83.	FL	Aucilla Ochlocknee St. Marks	Aucilla and Wacissa River Basin
84.	FL	Aucilla Ochlocknee St. Marks	Fenholloway River Basin
85.	FL	Aucilla Ochlocknee St. Marks	Steinhatchee River Basin and Coastal Area from Spring Warrior Creek to Suwannee River
86.	FL	St. Mary's	Coastal Area of St. Mary's River (Tidal Portion)
87.	FL	St. Mary's	Upper St. Mary's River
88.	FL	St. Mary's	Nassau River
89.	FL.	Perdido-Escambia	Perdido River Basin and Coastal Area
90.	FL	Perdido-Escambia	Pensacola - East Bay
91.	FL	Perdido-Escambia	Escambia Bay
92.	FL	Perdido-Escambia	Escambia River
93.	FL	Perdido-Escambia	Blackwater River Basin

*Stream segments that could not be located on map.

REGION IV

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	KY	Big Sandy	Big Sandy and tributaries, from confluence with Ohio River to Big Sandy
2.	KY	Big Sandy	Blaine Creek and tributaries, from confluence with Big Sandy River to Headwaters
3.	KY	Big Sandy	Rockcastle Creek and tributaries, from confluence with Tug Fork, Big Sandy River to Headwaters
4.	KY	Big Sandy	Turkey Creek and tributaries, from confluence with Tug Fork, Big Sandy River to Headwaters
5.	KY	Big Sandy	Wolf Creek and tributaries, from confluence with Tug Fork, Big Sandy River to Headwaters
6.	KY	Big Sandy	Big Creek and tributaries, from confluence with Tug Fork, Big Sandy River to Headwaters
7.	KY	Big Sandy	Pond Creek and tributaries, from confluence with Tug Fork, Big Sandy River to Headwaters
8.	KY	Big Sandy	Tom's Creek and tributaries, from confluence with Levisa Fork, Big Sandy River to Headwaters
9.	KY	Big Sandy	Paint Creek and tributaries, from confluence with Levisa Fork, Big Sandy River to Headwaters
10.	KY	Big Sandy	John's Creek and tributaries, from confluence with Head of Dewey Lake to Headwaters
11.	KY	Big Sandy	Middle Creek and tributaries, from confluence with Levisa Fork, Big Sandy River to Headwaters
12.	KY	Big Sandy	Beaver Creek and tributaries, from confluence with Levisa Fork to Headwaters
13.	KY	Big Sandy	Beaver Creek and tributaries, from confluence with Martin STP to Headwaters
14.	KY	Big Sandy	*Prater Creek and tributaries, from confluence with Levisa Fork, Big Sandy River to Headwaters
15.	KY	Big Sandy	Mud Creek and tributaries, from confluence with Levisa Fork, Big Sandy River to Headwater
16.	KY	Big Sandy	Island Creek and tributaries, from confluence with Levisa Fork, Big Sandy River to Headwaters

No.	**State**	**Basin**	**Description of Segment**
17.	**KY**	Big Sandy	Shelby Creek and tributaries, from confluence with Levisa Fork, Big Sandy River to Headwaters
18.	**KY**	Big Sandy	Blackberry Creek and tributaries, from confluence with Tug Fork, Big Sandy River to Headwaters
19.	**KY**	Big Sandy	Peter Creek and tributaries, from confluence with Tug Fork, Big Sandy River to Headwaters
20.	**KY**	Big Sandy	Knox Creek and tributaries, from confluence with Tug Fork, Big Sandy River to Headwaters
21.	**KY**	Big Sandy	Greasy Creek and tributaries, from confluence with Levisa Fork, Big Sandy River to Headwaters
22.	**KY**	Big Sandy	Grapevine Creek and tributaries, from confluence with Fish Trap Lake Headwaters
23.	**KY**	Big Sandy	Feds Creek and tributaries, from confluence with Fish Trap Lake Headwaters
24.	**KY**	Big Sandy	Elkhorn Creek and tributaries, from confluence with Russell Fork to Headwaters
25.	**KY**	Lower Cumberland	Sandy Cr. and tributaries, from confluence with Cumberland R. to Headwaters
26.	**KY**	Lower Cumberland	Livingston Cr. and tributaries, from confluence wit Cumberland R. to Headwaters
27.	**KY**	Lower Cumberland	Hammond Cr. and tributaries, from confluence with Barkley Lake to Headwaters & Tributaries
28.	**KY**	Lower Cumberland	Popular Cr. and tributaries, from confluence with Barkley Lake to Headwaters
29.	**KY**	Lower Cumberland	Eddy Cr. and tributaries, from confluence with Barkley Lake to Headwaters
30.	**KY**	Lower Cumberland	Muddy Cr. and tributaries, from confluence with Barkley Lake to Headwaters
31.	**KY**	Lower Cumberland	S. Fk. Little R. and tributaries, from confluence with Little River to Headwaters
32.	**KY**	Lower Cumberland	N. Fk. Little R. and tributaries, from confluence with Little River to Hopkinsville STP
33.	**KY**	Lower Cumberland	Red River and tributaries, from confluence with State Line to Adairville STP

No.	State	Basin	Description of Segment
34.	KY	Lower Cumberland	Elk Fork and tributaries, from confluence with State Line to Headwaters
35.	KY	Lower Cumberland	Big West Fork and tributaries, from confluence with State Line to Montgomery Cr.
36.	KY	Lower Cumberland	Montgomery Cr. and tributaries, from confluence with Big West Fork to Pembroke STP
37.	KY	Lower Cumberland	Big West Fork and tributaries, from confluence with Montgomery Cr. to Trenton STP
38.	KY	Upper Cumberland	Spring Creek and tributaries, from confluence with Dale Hollow Lake to Headwaters
39.	KY	Upper Cumberland	Beaver Creek and tributaries, from confluence with Cumberland Lake to Headwaters
40.	KY	Upper Cumberland	Pumpkin Creek and tributaries, from confluence with Cumberland Lake to Headwaters
41.	KY	Upper Cumberland	Big Lilly Creek and tributaries, from confluence with Cumberland Lake to Headwaters
42.	KY	Upper Cumberland	Greasy Creek and tributaries, from the confluence with Cumberland Lake to Headwaters
43.	KY	Upper Cumberland	Wolfe Creek and tributaries, from confluence with Cumberland Lake to Headwaters
44.	KY	Upper Cumberland	Fishing Creek and tributaries, from confluence with Cumberland Lake to Headwaters
45.	KY	Upper Cumberland	Rockcastle River and tributaries, from the confluence with Cumberland River to Rockcastle County line
46.	KY	Upper Cumberland	Rockcastle River and tributaries, from Rockcastle Co. line to Roundstone Creek
47.	KY	Upper Cumberland	Roundstone Creek and tributaries, from confluence with Rockcastle River to Headwaters
48.	KY	Upper Cumberland	Middle Fork Rockcastle River and tributaries, from confluence with Rockcastle River to Headwaters
49.	KY	Upper Cumberland	South Fork Rockcastle River and tributaries, from confluence with Rockcastle R. to Headwaters
50.	KY	Upper Cumberland	Hawk Creek and tributaries, from confluence with Rockcastle R. to Headwaters

No.	State	Basin	Description of Segment
51.	KY	Upper Cumberland	Big Raccoon Creek and tributaries, from confluence with Rockcastle R. to Headwaters
52.	KY	Upper Cumberland	Laurel River and tributaries, from confluence with Cumberland River to Lynn Camp Creek
53.	KY	Upper Cumberland	Laurel River and tributaries, from Lynn Camp Creek to Little Laurel River
54.	KY	Upper Cumberland	Cumberland River and tributaries, from Mile Point 558.5 to Jelico Creek
55.	KY	Upper Cumberland	Pitman Creek and tributaries, confluence with Cumberland Lake to Headwaters
56.	KY	Upper Cumberland	Big South Fork Cumberland River and tributaries, from confluence with Cumberland Lake to Blue Herron
57.	KY	Upper Cumberland	Big South Fork Cumberland River and tributaries, from Blue Herron to state line
58.	KY	Upper Cumberland	Buck Creek and tributaries, from the confluence with Cumberland River to Headwaters
59.	KY	Upper Cumberland	Eagle Creek and tributaries, from confluence with Cumberland River to Headwaters
60.	KY	Upper Cumberland	Marsh Creek and tributaries, from confluence with Cumberland River to Headwaters
61.	KY	Upper Cumberland	Cumberland River and tributaries, from Jelico Cr. to Williamsburg STP
62.	KY	Upper Cumberland	Watts Creek and tributaries, from confluence with Cumberland River to Headwaters
63.	KY	Upper Cumberland	Clear Fork and tributaries, from confluence with Cumberland River to Headwaters
64.	KY	Upper Cumberland	Richland Creek and tributaries, from confluence with Cumberland River to Headwaters
65.	KY	Upper Cumberland	Fighting Creek and tributaries, from confluence with Cumberland River to Headwaters
66.	KY	Upper Cumberland	Stinking Creek and tributaries, from confluence with Cumberland River to Headwaters
67.	KY	Upper Cumberland	Allex Branch and tributaries, from confluence with Stinking Creek to Headwaters

No.	**State**	**Basin**	**Description of Segment**
68.	KY	Upper Cumberland	Straight Creek and tributaries, from confluence with Cumberland River to Headwaters
69.	KY	Upper Cumberland	Left Fork Straight Creek and tributaries, from confluence with Straight Creek to Headwaters
70.	KY	Upper Cumberland	Clear Creek and tributaries, from confluence with Cumberland River to Headwaters
71.	KY	Upper Cumberland	Yellow Creek and tributaries, from confluence with Cumberland River to Headwaters
72.	KY	Upper Cumberland	Cumberland River and tributaries, from Puckett Creek to Loyal STP
73.	KY	Upper Cumberland	Cumberland River and tributaries, from Loyal STP to Clover Fork
74.	KY	Upper Cumberland	Clover Fork and tributaries, from confluence of Cumberland River to Headwaters
75.	KY	Upper Cumberland	Poor Fork and tributaries, from confluence with Cumberland River to Headwaters
76.	KY	Green	Panther Creek and tributaries, from confluence with Green River to Headwaters
77.	KY	Green	Green River and tributaries, from confluence with Cash Creek to Big Rivers
78.	KY	Green	Mock Roy Creek and tributaries, from Sebree Sewage Treatment Plant to Groves Creek
79.	KY	Green	Pond River and tributaries, from confluence with Green River to Cypress Cr. and tributaries
80.	KY	Green	Cypress Creek and tributaries, from confluence with Pond River to Muddy Fk.
81.	KY	Green	Cypress Creek and tributaries, from Muddy Fork to Headwaters
82.	KY	Green	Pond River and tributaries, from Cypress Creek to Jarrels Creek
83.	KY	Green	Flat Creek and tributaries, from confluence with Pond River to Madisonville STP
84.	KY	Green	Flat Creek Madisonville STP to Headwaters

No.	State	Basin	Description of Segment
85.	KY	Green	Pond River and tributaries, from confluence with Jarrells Creek to Headwaters
86.	KY	Green	Long Falls Creek and tributaries, from confluence with Green River to Headwaters
87.	KY	Green	Muddy Creek and tributaries, from confluence with Rough River to Headwaters
88.	KY	Green	Adams Fork and tributaries, from confluence with Rough River to Headwaters
89.	KY	Green	Caney Creek and tributaries, from confluence with Rough River to Headwaters
90.	KY	Green	Green River and tributaries, from confluence of Rough River to Kentucky Utilities
91.	KY	Green	Nelson Creek and tributaries, from confluence with Green River to Headwaters
92.	KY	Green	Green River and tributaries, from confluence with Williams Creek to TVA Power Plant, Paradise
93.	KY	Green	Lewis Creek and tributaries, from confluence with Green River to Headwaters
94.	KY	Green	Pond Creek and tributaries, from confluence with Green River to Caney Creek
95.	KY	Green	Caney Creek and tributaries, from confluence with Pond Creek to Headwaters
96.	KY	Green	Pond Creek and tributaries, from confluence with Caney Creek to Headwaters
97.	KY	Green	Pond Run and tributaries, from confluence with Green River to Headwaters
98.	KY	Green	Mud River and tributaries, from confluence with Green River to Headwaters
99.	KY	Green	Rocky Creek and tributaries, from confluence with Mud River to Headwaters
100.	KY	Green	Little Hazel Creek and tributaries, from confluence with Rocky Creek to Headwaters
101.	KY	Green	Muddy Creek and tributaries, from confluence with Green River to Headwaters

No.	State	Basin	Description of Segment
102.	KY	Green	Indian Camp Creek and tributaries, from confluence with Green River to Headwaters
103.	KY	Green	Welch Creek and tributaries, from confluence with Green River to Headwaters
104.	KY	Green	Gasper River and tributaries, from confluence with Barren River to Headwaters
105.	KY	Green	Black Lick Creek and tributaries, from confluence with Gasper R. to Auburn STP
106.	KY	Green	Rays Branch and tributaries, from confluence with Barren River to Headwaters
107.	KY	Green	Barren River and tributaries, from confluence with Rays Branch to Bowling Green STP
108.	KY	Green	West Fork Drakes Creek and tributaries, from confluence with Lick Creek to Franklin STP
109.	KY	Green	Bays Fork and tributaries, from confluence with Barren River to W. Bays Fork
110.	KY	Green	W. Bays Fork and tributaries, from confluence with Bays Fork to Scottsville STP
111.	KY	Green	Beaver Creek and tributaries, from confluence with Barren R. Res. to Headwaters
112.	KY	Green	S. Fk. Veaver Creek and tributaries, from confluence with Beaver Creek to Glasgow STP
113.	KY	Green	Skeggs Creek and tributaries, from confluence with Barren R. Res. to Headwaters
114.	KY	Green	Barren River, and tributaries, from White Oak Creek to Headwaters
115.	KY	Green	Bear Creek and tributaries, from confluence with Hargus Creek to Headwaters
116.	KY	Green	Green River and tributaries, from confluence with Bear Creek to Brownsville STP
117.	KY	Green	Green River and tributaries, from Lock #6 to confluence with Cub Run. M.P. 181.7 - 207.8
118.	KY	Green	Nolin River and tributaries, from confluence with Green River to Nolin Lake

No.	State	Basin	Description of Segment
119.	KY	Green	Nolin River and tributaries, from Bacon Creek to Valley Creek
120.	KY	Green	Valley Creek and tributaries, from confluence with Nolin River to Headwaters
121.	KY	Green	Nolin River and tributaries, from confluence with Valley Creek to North and South Fork Nolin River
122.	KY	Green	North Fork Nolin River and tributaries, from confluence with Nolin R. to Hodgenville STP
123.	KY	Green	South Fork Nolin River and tributaries, from confluence with Nolin R. to Headwaters
124.	KY	Green	S. Fk. Little Barren and tributaries, from confluence with Little Barren River to Edmonton STP
125.	KY	Green	Big Brush Creek and tributaries, from confluence with Green River to Headwaters
126.	KY	Green	Big Pitman Creek and tributaries, from confluence with Green River to Headwaters
127.	KY	Green	Little Pitman Creek and tributaries, from confluence with Big Pitman Creek to Campbellsville STP
128.	KY	Green	Russell Creek and tributaries, from confluence with Big Green River to Columbia STP
129.	KY	Green	Robinson Creek and tributaries, from confluence of Green River Reservoir to Headwaters
130.	KY	Green	Green River and tributaries, from confluence with South Fork to Casey County High School STP discharge
131.	KY	Kentucky	Whites Run and tributaries, from confluence with Kentucky River to Headwaters
132.	KY	Kentucky	Eagle Creek and tributaries, from confluence with Kentucky River to Headwaters
133.	KY	Kentucky	Clarks Creek and tributaries, from confluence with Eagle Creek to Williamstown STP
134.	KY	Kentucky	Stephens Creek and tributaries, from confluence with Eagle Creek to Owenton STP
135.	KY	Kentucky	Drennon Creek and tributaries, from confluence with Kentucky River to Headwaters

No.	State	Basin	Description of Segment
136.	KY	Kentucky	North Elkhorn Creek and tributaries, from Forks of Elkhorn to McConnells Run
137.	KY	Kentucky	North Elkhorm Creek and tributaries, from McConnells Run to Georgetown STP
138.	KY	Kentucky	Cane Run and tributaries, from confluence with North Elkhorn Creek to Headwaters
139.	KY	Kentucky	North Elkhorn Creek and tributaries, from Georgetown STP to Headwaters
140.	KY	Kentucky	South Elkhorn and tributaries, from Forks of Elkhorn to Lee's Branch
141.	KY	Kentucky	South Elkhorn and tributaries, from Lee's Branch to Headwaters
142.	KY	Kentucky	Kentucky River and tributaries, from Elkhorm Creek to Frankfort STP
143.	KY	Kentucky	Benson Creek and tributaries, from confluence with Kentucky River to Headwaters
144.	KY	Kentucky	Glenns Creek and tributaries, from confluence with Kentucky River to Headwaters
145.	KY	Kentucky	Shaker Creek and tributaries, from confluence with Kentucky River to Headwaters
146.	KY	Kentucky	Dix River and tributaries, from confluence with Kentucky River to Herrington Lake
147.	KY	Kentucky	Cane Run and tributaries, from confluence with Herrington Lake to Headwaters
148.	KY	Kentucky	Mocks Branch and tributaries, from confluence with Herrington Lake to Headwaters
149.	KY	Kentucky	Upper Dix River and tributaries, from confluence with Herrington Lake to Clarks Run
150.	KY	Kentucky	Clarks Run and tributaries, from confluence with Dix River to Headwaters
151.	KY	Kentucky	White Oak Creek and tributaries, from confluence with Dix River to Headwaters
152.	KY	Kentucky	Dix River and tributaries, from White Oak Creek to Logan Creek

No.	State	Basin	Description of Segment
153.	KY	Kentucky	Logan Creek and tributaries, from confluence with Dix River to Headwaters
154.	KY	Kentucky	Jessamine Creek and tributaries, from confluence with Kentucky River to Headwaters
155.	KY	Kentucky	Hickman Creek and tributaries, from confluence with Kentucky River to W. Hickman Creek
156.	KY	Kentucky	West Hickman Creek and tributaries, from confluence with Hickman Creek to Headwaters
157.	KY	Kentucky	Paint Lick Creek and tributaries, from White Lick Creek to Headwaters
158.	KY	Kentucky	Silver Creek and triburaties, from confluence with Kentucky River to Hayes Fork
159.	KY	Kentucky	Silver Creek and tributaries, from Hayes Fork to Headwaters
160.	KY	Kentucky	Tates Creek and tributaries, from confluence Kentucky River to Headwaters
161.	KY	Kentucky	Boone Creek and tributaries, from confluence with Kentucky River to Headwaters
162.	KY	Kentucky	Otter Creek and tributaries, from W. Fork Otter Creek to Headwaters
163.	KY	Kentucky	Muddy Creek and tributaries, from confluence with Kentucky River to Headwaters
164.	KY	Kentucky	Red River and tributaries, from Lulbegrud Creek to Stanton STP
165.	KY	Kentucky	Morris Creek and tributaries, from confluence with Red River to Headwaters
166.	KY	Kentucky	Goose Creek and tributaries, from confluence with South Fork Kentucky River to Headwaters
167.	KY	Kentucky	Middle Fork Red River and tributaries, from confluence with Red River to Headwaters
168.	KY	Kentucky	Red River and tributaries, from Middle Fork to Swift Camp Creek
169.	KY	Kentucky	Swift Camp Creek and tributaries, from confluence with Red River to Headwaters

No.	State	Basin	Description of Segment
170.	KY	Kentucky	Red River and tributaries, from Swift Camp Creek to Highway 746
171.	KY	Kentucky	Cow Creek and tributaries, from confluence with Kentucky River to Headwaters
172.	KY	Kentucky	Millers Branch and tributaries, confluence with Kentucky River to Headwaters
173.	KY	Kentucky	Station Camp Creek and tributaries, from confluence with Kentucky River to Headwaters
174.	KY	Kentucky	Sturgeon Creek and tributaries, from confluence with Kentucky River to Headwaters
175.	KY	Kentucky	Quicksand Creek and tributaries from confluence with N. Fork Kentucky River to Headwaters
176.	KY	Kentucky	Troublesome Creek and tributaries, from confluence with N. Fork Kentucky River to Balls Branch
177.	KY	Kentucky	Troublesome Creek and tributaries, from Balls Branch to Headwaters
178.	KY	Kentucky	N. Fork Kentucky River and tributaries, from Troublesome Creek to Willow Creek
179.	KY	Kentucky	N. Fork Kentucky River and tributaries from Willard Creek to Hazard STP
180.	KY	Kentucky	North Fork Kentucky River and tributaries, from Hazard STP to Rockhouse Creek
181.	KY	Kentucky	Lotts Creek and tributaries, from confluence with N. Fork Kentucky River to Headwaters
182.	KY	Kentucky	*Curly Fork and tributaries, from confluence with N. Fork Kentucky River to Headwaters
183.	KY	Kentucky	Big Creek and tributaries, from confluence with N. Fork Kentucky River to Headwaters
184.	KY	Kentucky	Horse Creek and tributaries, from confluence with Goose Creek to Headwaters
185.	KY	Kentucky	Browns Fork and tributaries, from confluence with Big Creek to Headwaters
186.	KY	Kentucky	N. Fork Kentucky River and tributaries, from Rockhouse Creek to Headwaters

No.	State	Basin	Description of Segment
187.	KY	Kentucky	Middle Fork Kentucky River and tributaries, from Hyden STP to Headwaters
188.	KY	Kentucky	Horse Creek and tributaries, from confluence with Goose Creek to Headwaters
189.	KY	Licking	Banlick Creek, and tributaries, from confluence with Licking River to Headwaters
190.	KY	Licking	Riffle Creek, and tributaries, from confluence with Licking River to Headwaters
191.	KY	Licking	Cruises Ck and tributaries, from confluence with Licking River to Headwaters
192.	KY	Licking	Phillip's Ch and tributaries, from confluence with Licking River to Headwaters
193.	KY	Licking	Grassey Ck and tributaries, from confluence with Licking River to Headwaters
194.	KY	Licking	Kincaid Creek and tributaries, from confluence with Licking River to Headwaters
195.	KY	Licking	Coopertown Ck and tributaries, from confluence with Lick Creek to Williamstown Ck
196.	KY	Licking	Crooked Creek and tributaries, from confluence with South Fork of Licking River to North Rags Fork
197.	KY	Licking	South Fork Licking River and tributaries, from Mill Creek to Grays Run
198.	KY	Licking	Hinkston Cr and tributaries, from confluence with So Fork Licking River to Headwaters
199.	KY	Licking	Stoner Creek and tributaries, from confluence with Hinkston Cr to Kennedy's Cr
200.	KY	Licking	Indian Creek and tributaries, from confluence with Stoner Crk. to Headwaters
201.	KY	Licking	Strodes Ck. and tributaries, from confluence with Stoner Ck. to Headwaters
202.	KY	Licking	Blanket Ck. and tributaries, from confluence with Licking River to Headwaters
203.	KY	Licking	Lees Creek and tributaries, from confluence with North Fork Licking River to Headwaters

No.	State	Basin	Description of Segment
204.	KY	Licking	Mill Creek and tributaries, from confluence with North Fork Licking River to Headwaters
205.	KY	Licking	Stonelick Branch and tributaries, from confluence with North Fork Licking River to Headwaters
206.	KY	Licking	Fleming Creek and tributaries, from confluence with Licking River to Headwaters
207.	KY	Licking	Hillsboro Branch and tributaries, from confluence with Licking River to Headwaters
208.	KY	Licking	Fox Creek & tributaries, from confluence with Licking River to Headwaters
209.	KY	Licking	Slate Ck and tributaries, from confluence with Licking River to Headwaters
210.	KY	Licking	Flat Creek and tributaries, from confluence with Licking River to Headwaters
211.	KY	Licking	Triplett Ck and tributaries, from confluence with Licking River to Headwaters
212.	KY	Licking	Beaver Cr and tributaries, from confluence with Cavern Reservoir to Headwaters
213.	KY	Licking	Elk Fork Cr and tributaries, from confluence with Licking River to New Morgan Co High School
214.	KY	Licking	Licking River and tributaries, from Johnson Fork to Headwaters
215.	KY	Mississippi	Shawnee Sl. and tributaries from confluence with Mississippi River to Headwater
216.	KY	Mississippi	Truman Cr. and tributaries, from confluence with Mayfield Cr. to Headwaters
217.	KY	Mississippi	West Fk. Mayfield Cr. and tributaries, from confluence of Mayfield Cr. to Headwaters
218.	KY	Mississippi	Bucklet Cr. and tributaries, from confluence with Mayfield Cr. to Headwaters
219.	KY	Mississippi	Wilson Cr. and tributaries, from confluence with Mayfield Cr. to Headwaters
220.	KY	Mississippi	Mayfield Cr. and tributaries, from confluence with Wilson Cr. to Gilbert Cr.

No.	State	Basin	Description of Segment
221.	KY	Mississippi	Mayfield Cr. and tributaries, from confluence with Wilson Cr. to Gilbert Cr.
222.	KY	Mississippi	Mayfield Cr. and tributaries, from confluence with Wilson Cr. to Headwaters
223.	KY	Mississippi	Obion Cr. and tributaries, from confluence with Mississippi River to Hurricane Cr.
224.	KY	Mississippi	Obion Cr. and tributaries, confluence with Hurricane Cr. to Cane Cr.
225.	KY	Mississippi	Obion Cr. and tributaries, confluence with Cane Cr. to Brush Cr.
226.	KY	Mississippi	Obion Cr. and tributaries, from confluence with Brush Cr. to Headwaters
227.	KY	Mississippi	Little Mud Cr. and tributaries, from confluence with Bayou de Chien to Headwaters
228.	KY	Mississippi	Sand Cr. and tributaries, from confluence with Bayou de Chien to Headwaters
229.	KY	Mississippi	Bayou de Chien and tributaries, from confluence with Cane Cr. to Headwaters
230.	KY	Mississippi	Knob Creek and tributaries, from confluence with State Line to Headwaters
231.	KY	Mississippi	Haris Fork Cr. and tributaries, from confluence with State Line to Headwaters
232.	KY	Mississippi	Terrapin Cr. and tributaries, from confluence with State Line to Headwaters
233.	KY	Ohio	Humphrey's Creek and tributaries, from confluence with Ohio River to La Center STP
234.	KY	Ohio	Humphrey's Creek and tributaries, from La Center STP to Headwaters
235.	KY	Ohio	Massac Creek and tributaries, from confluence with Ohio River to Headwaters
236.	KY	Ohio	Perkins Creek and tributaries, from confluence with Ohio to Headwaters
237.	KY	Ohio	Hurricane Creek and tributaries, from confluence with Ohio River to Headwaters
238.	KY	Ohio	Crooked Creek and tributaries, from confluence of Ohio River to Headwaters

No.	State	Basin	Description of Segment
239.	KY	Ohio	Goose Pond Ditch and tributaries, from confluence of Ohio River to Headwaters
240.	KY	Ohio	Lost Creek and tributaries, from confluence with Ohio River to Uniontown STP
241.	KY	Ohio	Lost Creek and tributaries, from Uniontown STP to Headwaters
242.	KY	Ohio	Highland Creek and tributaries, from confluence with Ohio River to Headwaters
243.	KY	Ohio	Canoe Creek and tributaries, from confluence with Ohio River to Headwaters
244.	KY	Ohio	Ohio River and tributaries, from Atkinson Creek to Green River
245.	KY	Ohio	Ohio River and tributaries, from Green River to Yellow Creek
246.	KY	Ohio	Yellow Creek and tributaries, from confluence with Ohio River to Headwaters
247.	KY	Ohio	Pup Creek and tributaries, from confluence with Ohio River to Headwaters
248.	KY	Ohio	Ohio River and tributaries, from Blackford Creek to Yellow Creek
249.	KY	Ohio	Yellow Creek and tributaries, from confluence with Ohio River to Headwaters
250.	KY	Ohio	Ohio River and tributaries, from Yellow Creek to Western Kraft Corp.
251.	KY	Ohio	Lead Creek and tributaries, from confluence with Ohio River to Headwaters
252.	KY	Ohio	Ohio River and tributaries, from Western Kraft Corp. to Sinking Creek
253.	KY	Ohio	Ohio River and tributaries, from Sinking Creek to Brandenburg STP
254.	KY	Ohio	Sinking Creek and tributaries, from confluence with Ohio River to Headwaters
255.	KY	Ohio	Ohio River and tributaries, from Brandenburg STP to Salt River
256.	KY	Ohio	Doe Run and tributaries, from Ohio River to Headwaters

No.	State	Basin	Description of Segment
257.	KY	Ohio	Otter Creek and tributaries, from confluence with Ohio River to Headwaters
258.	KY	Ohio	Ohio River and tributaries, from Salt River to just above McAlpine L. & D.
259.	KY	Ohio	Mill Creek and tributaries, from Ohio River to Headwaters
260.	KY	Ohio	Beargrass Creek and tributaries, from confluence with Ohio River to Headwaters
261.	KY	Ohio	Goose Creek and tributaries, from confluence with Ohio River to Headwaters
262.	KY	Ohio	Harrods Creek confluence with Ohio River to Highway 393 bridge over Harrods Creek
263.	KY	Ohio	Harrods Creek confluence with Highway 393 bridge to Headwaters and tributaries
264.	KY	Ohio	Ohio River and tributaries, from Markland Lock and Dam to the Licking River
265.	KY	Ohio	Dry Creek and tributaries, from confluence with Ohio River to Headwaters
266.	KY	Ohio	*Sugar Creek and tributaries, from confluence with Ohio River to Headwaters
267.	KY	Ohio	Big Bone Creek and tributaries, from confluence with Ohio River to Headwaters
268.	KY	Ohio	Gunpowder Creek and tributaries, from confluence with Ohio River to Headwaters
269.	KY	Ohio	Woolper Creek and tributaries, from confluence with Ohio River to Headwaters
270.	KY	Ohio	Elijah's Creek and tributaries, from confluence with Ohio River to Headwaters
271.	KY	Ohio	Dry Creek and tributaries, from confluence with Ohio River to Headwaters
272.	KY	Ohio	Four Mile Creek and tributaries, from confluence with Ohio River to Headwaters
273.	KY	Ohio	Twelve Mile Cr and tributaries, from confluence with Ohio River to Headwaters
274.	KY	Ohio	Locust Creek and tributaries, from confluence with Ohio River to Headwaters

No.	State	Basin	Description of Segment
275.	KY	Ohio	Bracken Creek and tributaries, from confluence with Ohio River to Headwaters
276.	KY	Ohio	Lawrence Creek and tributaries, from confluence with Ohio River to Headwaters
277.	KY	Ohio	Linestone Creek and tributaries, from confluence with Ohio River to Headwaters. This stream is not on the streams of Kentucky map.
278.	KY	Ohio	Cabin Creek and tributaries, from confluence with Ohio River to Headwaters
279.	KY	Ohio	Salt Lick Creek and tributaries, from confluence with Ohio River to Headwaters
280.	KY	Ohio	Kinniconnick Creek and tributaries, from confluence with Ohio River to Headwaters
281.	KY	Ohio	Grays Branch and tributaries to Ohio River
282.	KY	Ohio	Little White Oak and tributaries, from confluence with Tygarts Cr to Headwaters
283.	KY	Ohio	White Oak and tributaries, from confluence with Tygarts Cr to Headwaters
284.	KY	Ohio	Buffalo Cr and tributaries, from confluence with Tygarts Cr to Headwaters
285.	KY	Ohio	Tygarts Creek and tributaries, from Mile Point 33.3 to 49.3
286.	KY	Ohio	Ohio River and tributaries, from Greenup Locks & Dam to Greenup STP
287.	KY	Ohio	East Fork Little Sandy River and tributaries, from confluence with Little Sandy River to Headwaters
288.	KY	Ohio	Sinking Branch and tributaries, from confluence with Little Sandy to Headwaters
289.	KY	Ohio	Little Sandy River and tributaries, from Greenup Co. line to Grayson STP discharge
290.	KY	Ohio	Wilson Cr and tributaries, from confluence with Little Sandy River to Headwaters
291.	KY	Ohio	Everman Creek and tributaries, from confluence with Little Sandy River to Headwaters
292.	KY	Ohio	Ohio River and tributaries, from Yellow Creek to Blackford Creek

No.	State	Basin	Description of Segment
93.	KY	Ohio	Big Bayou Creek and tributaries, from confluence
94.	KY	Ohio	Barrett Creek and tributaries, from confluence with Little Sandy River to Headwaters
95.	KY	Ohio	Little Sandy River and tributaries, from Grayson STP to Middle Fork of Little Sandy River
96.	KY	Ohio	Little Fork and tributaries, from confluence with Little Sandy River to Headwaters
97.	KY	Ohio	Little Sinking Creek and tributaries, from confluence with Little Sandy River to Headwaters
98.	KY	Ohio	Big Sinking Creek and tributaries, from confluence with Little Sandy River to Headwaters & Tributaries
99.	KY	Ohio	Ohio River and tributaries, from Greenup STP to Big Sandy River
00.	KY	Ohio	Hood Creek and tributaries, from confluence with Ohio River to Headwaters
01.	KY	Ohio	Cattletts Creek and tributaries, from confluence with Ohio River to Headwaters
02.	KY	Tradewater	Tradewater River and tributaries, from confluence with the Ohio to Cypress Cr.
03.	KY	Tradewater	Cypress Cr. and tributaries, from confluence with Tradewater River to Headwater
04.	KY	Tradewater	Tradewater River and tributaries, from Cypress Cr. to Vaughn Ditch
05.	KY	Tradewater	Vaughn Ditch and tributaries, from confluence with Tradewater R. to Headwaters
06.	KY	Tradewater	Tradewater River and tributaries, from Vaughn Ditch to Owen Cr.
07.	KY	Tradewater	Owens Cr. and tributaries, from confluence with Tradewater River to Headwaters
08.	KY	Tradewater	Tradewater River and tributaries, from Owens Cr. to Clear Cr.
09.	KY	Tradewater	Clear Cr. and tributaries, from confluence with Tradewater River to Richland Cr.
10.	KY	Tradewater	Clear Cr. and tributaries, from Richland Cr. to Headwaters

No.	State	Basin	Description of Segment
311.	KY	Tradewater	Tradewater River and tributaries, from Clear Cr. to Flynn Fork
312.	KY	Tradewater	Flynn Fork and tributaries, from confluence with Tradewater to Headwaters
313.	KY	Tradewater	Tradewater River and tributaries, from Flynn Fork to Dawson Springs STP
314.	KY	Tradewater	Piney Cr. and tributaries, from confluence with Tradewater to Headwaters
315.	KY	Tradewater	Tradewater River and tributaries, from confluence at Buffalo Cr. to Headwaters
316.	KY	Salt River	Pond Creek and tributaries, from confluence with Salt River to Headwaters
317.	KY	Salt River	Southern Ditch and tributaries, from confluence with Pond Creek to Headwaters
318.	KY	Salt River	Wilson Creek and tributaries, from confluence with Southern Ditch to Headwaters
319.	KY	Salt River	Mill Creek and tributaries, from confluence with Salt River to Fort Knox STP
320.	KY	Salt River	Mill Creek and tributaries, from confluence with Fort Knox STP to Headwaters
321.	KY	Salt River	Rolling Fork and tributaries, from confluence with Salt River to Lebanon Junction STP
322.	KY	Salt River	Rolling Fork and tributaries, from Lebanon Junction STP to New Haven STP
323.	KY	Salt River	Rolling Fork and tributaries, from confluence with New Haven STP to Headwaters
324.	KY	Salt River	Beech Fork and tributaries, from confluence with Rolling Fork to Bardstown STP
325.	KY	Salt River	Hardins Creek and tributaries, from confluence with Beech Fork to Headwaters
326.	KY	Salt River	Chaplin River and tributaries, from confluence wit Beech Fork to Headwaters
327.	KY	Salt River	Salt River and tributaries, from confluence with Rolling Fork to Shepherdsville STP
328.	KY	Salt River	Long Lick Creek and tributaries, from confluence with Salt River to Headwaters

No.	State	Basin	Description of Segment
329.	KY	Salt River	Salt River and tributaries, from Shepherdsville STP to Floyds Fork
330.	KY	Salt River	Floyds Fork and tributaries, from confluence with Salt River to Chenoweth Run
331.	KY	Salt River	Chenowith Run and tributaries, from confluence with Floyds Fork to Headwaters
332.	KY	Salt River	Floyds Fork and tributaries, from confluence with Chenowith Run to Currys Fork
333.	KY	Salt River	Floyds Fork and tributaries, from confluence with Currys Fork to Headwaters
334.	KY	Salt River	Cox Creek and tributaries, from confluence with Salt River to Headwaters
335.	KY	Salt River	Plum Creek and tributaries, from confluence with Salt River to Headwaters
336.	KY	Salt River	Salt River and tributaries, from Plum Creek to Taylorsville STP
337.	KY	Salt River	Simpson Creek and tributaries, from confluence with Salt River to Headwaters
338.	KY	Salt River	Brashears Creek and tributaries, from confluence with Salt River to Clear Creek
339.	KY	Salt River	Clear Creek and tributaries, from confluence with Brashears Creek to Headwaters
340.	KY	Salt River	Brashears Creek and tributaries, from confluence with Clear Creek to Headwaters
341.	KY	Salt River	Timber Creek and tributaries, from confluence with Salt River to Headwaters
342.	KY	Salt River	Salt River and tributaries, from confluence with Timber Creek to J. E. Seagram discharge
343.	KY	Salt River	Hammond Creek and tributaries, from confluence with Salt River to Headwaters
344.	KY	Salt River	Salt River and tributaries, from confluence with Lyons Branch to confluence with Town Creek
345.	KY	Salt River	Salt River and tributaries, from confluence with Town Creek to Headwaters

No.	State	Basin	Description of Segment
346.	KY	Tennessee	Island Creek and tributaries, from confluence with Tennessee River to Headwaters
347.	KY	Tennessee	Island Creek and tributaries, from confluence with Tennessee River to Headwaters
348.	KY	Tennessee	*Town Branch and tributaries, from confluence East Fork Clark's River to Headwaters
349.	KY	Tennessee	*Chestnut Creek and tributaries, from confluence with East Fork Clark's River to Headwaters
350.	KY	Tennessee	East Fork Clarks River and tributaries, from confluence with Watch Creek to Middle Fork of East Fork Clarks River
351.	KY	Tennessee	Martins Creek and tributaries, from confluence with East Fork Clark's River to Headwaters
352.	KY	Tennessee	East Fork of Clark's River and tributaries, from Middle Fork of East Clark's River to Headwaters
353.	KY	Tennessee	West Fork Clark's River and tributaries, from confluence with Clark's River to Headwaters
354.	KY	Tennessee	Cypress Creek and tributaries, from confluence with Tennessee River to Calvert City STP
355.	KY	Tennessee	Cypress Creek and tributaries, from confluence Calvert City STP to Headwaters
356.	KY	Tennessee	Tennessee River and tributaries, from confluence with Lee Creek to Kentucky Lake
357.	KY	Tennessee	*Maple Springs Branch and tributaries, from confluence with Kentucky Lake to Headwaters
358.	KY	Tennessee	Jonathan Creek and tributaries, from confluence with Kentucky Lake to Headwaters

*Stream segments that could not be located on map.

REGION IV

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1	MS	Coastal	Keegan Bayou below S26, T7S, R9W, Harrison County
2	MS	Coastal	Bernard Bayou below S8, T7s, R11W, Harrison County
3	MS	Coastal	Johnson Bayou below S12, T8, R12, Harrison County
4	MS	Coastal	Tidewater Bayou below S30, T7S, R8W, Jackson County
5	MS	Coastal	Bayou Casotte below S8, T8S, R5W, Jackson County
6	MS	Coastal	Watts Bayou below S3S, T8S, R14W, Hancock County
7	MS	Coastal	Cypress Creek below S10, T7S, R9W, Harrison County
8	MS	Coastal	Old Fort Bayou below S18, T7S, R8W, Jackson County
9	MS	Coastal	Lamotte Bayou below S12, T8S, R6W, Jackson County
10	MS	Coastal	Unnamed Bayou below S13, T8S, R7W, Jackson County (To Mississippi Sound)
11	MS	Coastal	Johnson Bayou below S24, T8S, R13W, Harrison County
12	MS	Coastal	Turkey Creek below S28, T7S, R11W, Harrison County
13	MS	Coastal	St. Martins Bayou below S16, T7S, R9W, Jackson County
14	MS	Coastal	Brodie Bayou below S17, T7S, R9W, Harrison County
15	MS	Coastal	Fritz Creek below S35, T6S, R11W, Harrison County
16	MS	Coastal	Pole Bayou below S20, T9S, R16W, Hancock County
17	MS	Coastal	Flat Branch below S9, T7S, R11W, Harrison County
18	MS	Coastal	Unnamed ditch below S2, T8S, R14W, Hancock County (to Bay St. Louis)
19	MS	Coastal	*Line Creek below S9, T8S, R12W, Harrison County
20	MS	Coastal	Unnamed Creek below S34, T8S, R14W, Hancock County (to Edwards Bayou)
21	MS	Coastal	Bayou Poito below S7, T7S, R8W, Jackson County
22	MS	Coastal	Coon Branch below S25, T8S, R13W, Harrison County
23	MS	Coastal	Bayou Portage below S3, T8S, R12W, Harrison County

No.	State	Basin	Description of Segment
24	MS	Coastal	Brickyard Bayou below S34, T7S, R11W, Harrison County
25	MS	Coastal	Unnamed Creek Below S22, T8S, R14W, Hancock County (to Edwards Bayou)
26	MS	Coastal	North Fork of Flat Branch below S9, T6S, R11W, Harrison County
27	MS	Coastal	Mill Creek below S4, T7S, R10W, Harrison County
28	MS	Coastal	*Pole Creek below S19, T6S, R12W, Harrison County
29	MS	Coastal	Saucier Creek below S6, T5S, R11W, Harrison County
30	MS	Coastal	Unnamed Creek below S21, T6S, R11W, Harrison County (to Bernard Bayou)
31	MS	Coastal	Sand Bayou below S17, T9S, R14W, Hancock County
32	MS	Coastal	White's Bayou below S16, T9S, R16W, Hancock County
33	MS	Coastal	Indian Bayou below S9, T8S, R12W, Harrison County
34	MS	Coastal	Bayou Portage below S13, T8S, R13W, Harrison County
35	MS	Coastal	Bayou Portage below S8, T8S, R12W, Harrison County
36	MS	Pascagoula	East Pascagoula River below S29, T6, R5, Jackson County
37	MS	Pascagoula	Sowashee Creek below S27, T7N, R16E, Lauderdale County
38	MS	Pascagoula	Escatawpa River below S10, T7S, R6, Jackson County
39	MS	Pascagoula	Fourmile Creek below S31, T6S, R5W, Jackson County
40	MS	Pascagoula	Sioux Bayou below S24, T7S, R7W, Jackson County
41	MS	Pascagoula	Unnamed Creek below S25, T7S, R7W, Jackson County (to West Pascagoula River)
42	MS	Pascagoula	Black Creek below S31, T4S, R5W, Jackson County
43	MS	Pascagoula	School Branch below S11, T6S, R7W, Jackson County (to Bluff Creek)
44	MS	Pascagoula	Tallahala Creek below S20, T9, R11, Jones County
45	MS	Pascagoula	*Mary Walker Bayou below S2S, T7S, R7W, Jackson County
46	MS	Pascagoula	Tcomsuba Cr. below S36, T7N, R17E, Lauderdale County

No.	State	Basin	Description of Segment
47	MS	Pascagoula	Potterchitto Creek below S28, T6, R11, Newton County
48	MS	Pascagoula	Rocky Creek below S7, T7, R12, Jones County
49	MS	Pascagoula	Goodwater Creek below S18, T8, R8, Simpson County
50	MS	Pascagoula	Myers Bay Creek below S16, T2, R14, Lamar County
51	MS	Pascagoula	Red Creek below S31, T1, R4, Lamar County
52	MS	Pascagoula	Chunky River below S6, T8, R12, Newton County
53	MS	Pascagoula	Weldy Creek below S21, T3N, R12W, Forrest County
54	MS	Pascagoula	Bostic Creek below S5, T3, R15, Clarke County
55	MS	Pascagoula	Fourmile Creek below S25, T2, R12, Stone County
56	MS	Pascagoula	Etahoma Creek below S33, T2, R10, Jasper County
57	MS	Pascagoula	Fisher Creek below S16, T10, R15, Smith County
58	MS	Pascagoula	Unnamed Creek below S34, T6, R11, Newton County (to Tarlow Creek)
59	MS	Pascagoula	Town Creek below S7, T9, R17, Covington County
60	MS	Pascagoula	Martin Creek below S13, T2, R6, Greene County
61	MS	Pascagoula	Church House Branch below S30, T2, R11, Stone County
62	MS	Pascagoula	Dry Lake below S36, T6, R12, Newton County
63	MS	Pascagoula	Oakahatta Creek below S20, T7, R12, Newton County
64	MS	Pascagoula	Tallahoma Cr. below S33, T2, R10, Jasper County
65	MS	Pascagoula	Beaver Creek below S32, T1, R13, Jasper County
66	MS	Pascagoula	Mineral Creek below S22, T5N, R14W, Forrest County
67	MS	Pascagoula	Anderson's Br. below S19, T7, R12, Newton County
68	MS	Pascagoula	Roberts Creek below S7, T2N, R9W, Perry County
69	MS	Pascagoula	Bogue Homa Creek below S29, T1, R13, Jasper County
70	MS	Pascagoula	Bowie R. below S33, T5N, R13W, Forrest County
71	MS	Pascagoula	Shoemake Br. below S20, T5N, R11W, Perry County

No.	State	Basin	Description of Segment
72	MS	Pascagoula	Big Reedy Creek below S18, T9N, R11W, Jones County
73	MS	Pascagoula	Black Creek below S7, T6W, R17W, Jefferson Davis County
74	MS	Pascagoula	Nigger Creek below S7, T6N, R17W, Jefferson Davis County
75	MS	Pascagoula	Coker's Creek below S16, T8N, R14E, Lauderdale County
76	MS	Pascagoula	Shop Branch at Mineral Creek below S26, T5N, R14W, Forrest County
77	MS	Pascagoula	Unnamed Creek below S18, T10N, R14W, Smith County (to Oakohay Creek)
78	MS	Pascagoula	Spring Creek below S11, T9N, R13W, Jones County
79	MS	Pascagoula	McGill Creek below S21, T10N, R10W, Jones County
80	MS	Pascagoula	Archusa Creek below S6, T4N, R16E, Lauderdale County
81	MS	Pascagoula	Ichusa Creek below S10, T4N, R9E, Smith County
82	MS	Pascagoula	Horse Creek below S14, T9N, R13W, Jones County
83	MS	Pascagoula	Nanube Creek below S5, T6N, R17E, Lauderdale County
84	MS	Pascagoula	Hognose Creek below S19, T6N, R15E, Lauderdale County
85	MS	Pascagoula	Unnamed Creek below S11, T6N, R13W, Jones County (to Leaf R.)
86	MS	Pascagoula	Perkins Creek below S20, T4N, R14W, Lamar County
87	MS	Pascagoula	Mill Creek below S16, T8N, R10W, Jones County
88	MS	Pascagoula	Greens Creek below S35, T5N, R13W, Forrest County
89	MS	Pascagoula	Dry Creek below S3, T9, R11, Jones County
90	MS	Pascagoula	*Denny Mill Creek below S13, T15, R6W, George County
91	MS	Pascagoula	Unnamed Creek below S24, T8N, R11W, Jones County (to Bogue Homa Creek)
92	MS	Pascagoula	Gaines Creek below S3, T4N, R9W, Perry County
93	MS	Pascagoula	*Mill Creek below S24, T4N, R11W, Perry County
94	MS	Pascagoula	Negro Creek below S7, T6, R17W, Jefferson Davis County

No.	State	Basin	Description of Segment
95	MS	Pascagoula	Unnamed Creek below S2, T2N, R7E, Smith County (to Oakohay Creek)
96	MS	Pascagoula	Tallabogue Creek below S3, T2, R16, Clarke County
97	MS	Pascagoula	White Creek below S29, T2S, R6W, George County
98	MS	U.Tombigbee	Town Creek below S32, T9S, R6E, Lee County
99	MS	U.Tombigbee	Unnamed Creek below S23, T17S, R6E, Clay County (to Town Creek)
100	MS	U.Tombigbee	Burkett Creek below S25, T12, R7, Monroe County
101	MS	U.Tombigbee	Sand Creek below S20, T19, R15, Oktibbeha County
102	MS	U.Tombigbee	Mile Branch below S9, T10, R3, Pontotoc County
103	MS	U.Tombigbee	Chico Creek below S9, T14S, R3E, Chickasaw County
104	MS	U.Tombigbee	Town Creek below S1, T11, R7, Lee County
105	MS	U.Tombigbee	James Creek below S3, T15S, R7E, Monroe County
106	MS	U.Tombigbee	Roundhouse Branch below S35, T13, R19, Monroe County
107	MS	U.Tombigbee	Matubby Creek below S35, T12, R5, Chickasaw County
108	MS	U.Tombigbee	Twentymile Creek below S2, T6, R6, Lee County
109	MS	U.Tombigbee	Louisa Creek below S36, T10S, R5E, Lee County
110	MS	U.Tombigbee	Unnamed Creek below S36, T9S, R8E, Itawamba County (to Tombigbee River)
111	MS	U.Tombigbee	Sand Creek below S16, T8S, R6E, Lee County
112	MS	U.Tombigbee	Town Creek below S23, T12, R5, Chickasaw County
113	MS	U.Tombigbee	Coonewah Creek below S32, T9S, R6, Lee County
114	MS	U.Tombigbee	Little Sand Creek below S9, T9S, R6E, Lee County
115	MS	U.Tombigbee	Cummings Creek below S25, T9S, R8E, Itawamba County
116	MS	U.Tombigbee	Unnamed Creek below S25, T17S, R6E, Clay County (to Tibbee Creek)
117	MS	U.Tombigbee	Town Creek below S21, T10S, R6E, Lee County
118	MS	U.Tombigbee	Chuquatonchee Creek below S7, T16S, R6E, Clay County
119	MS	U.Tombigbee	Coonewah Creek below S15, T10S, R5E, Lee County
120	MS	U.Tombigbee	Chipwapa Creek below S19, T11S, R6E, Lee County
121	MS	U.Tombigbee	Josey Cr. below S25, T18, R15, Oktibbeha County
122	MS	U.Tombigbee	Mud Creek below S35, T9, R6, Lee County
123	MS	U.Tombigbee	Unnamed Creek below S31, T9S, R9E, Itawamba County (to Tombigbee R.)
124	MS	U.Tombigbee	Shuqualak Creek below S21, T13, R7, Kemper County

No.	State	Basin	Description of Segment
125	MS	U.Tombigbee	Unnamed Creek below S19, T18N, R14E, Oktibbeha County (to TalkingWarrior Creek)
126	MS	U.Tombigbee	Kings Creek below S21, T9, R5, Lee County
127	MS	U.Tombigbee	Buck Creek below S17, T12, R3, Chickasaw County
128	MS	U.Tombigbee	Webster Creek below S16, T10, R3, Pontotoc County
129	MS	U.Tombigbee	Catalpa Creek below S20, T18N, R16E, Oktibbeha County
130	MS	U.Tombigbee	Tarlechia Creek below S8, T5, R7, Prentiss County
131	MS	U.Tombigbee	Mosquito Creek below S18, T12, R3, Chickasaw County
132	MS	U.Tombigbee	Boguefala Creek below S28, T95, R7E, Lee County
133	MS	U.Tobmigbee	King Creek below S15, T5, R1N, Tishomingo County
134	MS	U.Tombigbee	Boyer Creek below S16, T5, R7, Prentiss County
135	MS	U.Tombigbee	Russell Creek below S28, T95, R5E, Lee County
136	MS	U.Tombigbee	Unnamed Creek below S6, T9S, R8E, Lee County (to Mud Creek)
137	MS	U.Tombigbee	Twenty-Mile Creek below S31, T77, R7E, Prentiss County
138	MS	U.Tombigbee	Unnamed Creek below S18, T18N, R14E, Oktibbeha County (to Tobacco Juice Creek)
139	MS	U.Tombigbee	Rock Creek below S35, T6, R10, Tishomingo County
140	MS	U.Tombigbee	McCrary Creek below S25, T18S, R18E, Lowndes County
141	MS	U.Tombigbee	Town Creek S11, T17S, R6E, Clay County
142	MS	U.Tombigbee	Dose Maie Creek below S29, T15S, R18W, Monroe County
143	MS	U.Tombigbee	Unnamed Creek below S36, T12S, R3E, Chickasaw County (to Dicks Creek)
144	MS	U.Tombigbee	Burkett's Creek below S34, T12S, T18W, Monroe County
145	MS	U.Tombigbee	Wilson Creek below S22, T158, R18W, Monroe County
146	MS	U.Tombigbee	Standing Reed Creek below S1, T16S, R3E, Clay County

No.	State	Basin	Description of Segment
147	MS	U.Tombigbee	Unnamed Creek below S7, T6S, R7E, Prentiss County (to Twentymile Creek)
148	MS	U.Tombigbee	Unnamed Creek below S1, T15S, R7E, Monroe County (to James Creek)
149	MS	U.Tombigbee	Greenwood Creek below S1, T10S, R7E, Itawamba County
150	MS	U.Tombigbee	Turkey Creek below S1, T18N, R14E, Oktibbeha County
151	MS	U.Tombigbee	Unnamed Creek below S21, T5S, R8E, Prentiss County (to Big Brown Creek)
152	MS	U.Tombigbee	Hollis Creek below S35, T18N, R14E, Oktibbeha County
153	MS	U.Tombigbee	Unnamed Creek below S12, T17S, R6E, Clay County (to Town Creek)
154	MS	U.Tombigbee	Biba Wila Creek below S15, T19N, R13E, Oktibbeha County
155	MS	U.Tombigbee	Unnamed Creek below S9, T20N, R6E, Clay County (to Chuquantonchee Creek)
156	MS	U.Tombigbee	Trim Cane Creek below S20, T19N, R12E, Oktibbeha County
157	MS	U.Tombigbee	Tulip Creek below S34, T9, R6, Lee County
158	MS	U.Tombigbee	Catalpa Creek below S21, T18, R14, Oktibbeha County
159	MS	Yazoo	Lead Bayou below S27, T22, R5, Bolivar County
160	MS	Yazoo	Burney's Branch below S4, T9, R3, Lafayette County
161	MS	Yazoo	Washington County Drainage Canal below S21, T18, R7, Washington County
162	MS	Yazoo	Phyfer Creek below S23, T4S, R3E, Tippah County
163	MS	Yazoo	McIvor Creek below S27, T7, R7, Panola County
164	MS	Yazoo	*Pigeon Roost Creek below S1, T4,R3, Marshall County
165	MS	Yazoo	Toby Tubby Creek below S18, T8, R4, Lafayette County
166	MS	Yazoo	Tillatoba Creek below S26, T2, R2, Tallahatchie County
167	MS	Yazoo	Johnsons Creek below S6, T2S, R8W, DeSoto County
168	MS	Yazoo	Otoucalouffa River below S8, T11, R4, Yalobusha County

No.	State	Basin	Description of Segment
169	MS	Yazoo	Quiver River below S1, T19N, R2W, Leflore County
170	MS	Yazoo	Gayden Brake below S30, T19, R1, Leflore County
171	MS	Yazoo	Deer Creek below S8, T15N, R6W, Washington County
172	MS	Yazoo	Quiver River below S32, T22, R3, Sunflower County
173	MS	Yazoo	Moorehead Bayou below S15, T18N, R3W, Sunflower County
174	MS	Yazoo	Porters Bayou below S12, T20, R6, Bolivar County
175	MS	Yazoo	Black Bayou below Parchman, Sunflower County
176	MS	Yazoo	Lappatubby Creek below S28, T9S, R3E, Pontotoc County
177	MS	Yazoo	Mussacuna Creek below S24, T3, R8, DeSoto County
178	MS	Yazoo	Little Mound Bayou below S19, T24N, R5W, Bolivar County
179	MS	Yazoo	Yalobusha River below S23, T23, R9, Calhoun County
180	MS	Yazoo	Dougherty Bayou below S8, T22, R3, Sunflower County
181	MS	Yazoo	Lanes Bayou below S9, T23, R8, Bolivar County
182	MS	Yazoo	Mackie Lake below S36, T28N, R4W, Coahoma County
183	MS	Yazoo	Camp Creek below S28, T1, R6, DeSoto County
184	MS	Yazoo	Whiteoak Bayou, S33, T4, R11, Tunica County
185	MS	Yazoo	Brougher Creek below Tippah County
186	MS	Yazoo	North Fork of Pelucia Creek below S24, T19N, R1E, Leflore County
187	MS	Yazoo	Craig Canal below S14, T19N, R1E, Leflore County
188	MS	Yazoo	Mound Bayou below S10, T17N, R4W, Sunflower County
189	MS	Yazoo	Moore Bayou below S2, T8N, R3W, Coahoma County
190	MS	Yazoo	Hopson Bayou below S20, T25, R2, Tallahatchie County
191	MS	Yazoo	Indian Bayou Ditch No. 8 below S11, T12,R7, Sharkey County
192	MS	Yazoo	Rolling Fork Drainage Ditch No. 7 below S1, T12, R7, Sharkey County

No.	State	Basin	Description of Segment
193	MS	Yazoo	Tchula Lake below S7, T15N, R1E, Holmes County
194	MS	Yazoo	Sigman Creek below S32, T3, R2, Marshall County
195	MS	Yazoo	Cassidy Bayou below S2, T24N, R2W, Tallahatchie County
196	MS	Yazoo	Holmes Bayou below S12, T24, R6, Bolivar County
197	MS	Yazoo	Yalobusha River below S10, T14, R1, Calhoun County
198	MS	Yazoo	Durden Creek below S4, T24, R6, Yalobusha County
199	MS	Yazoo	Byhalia Creek below S36, T2, R5, Marshall County
200	MS	Yazoo	Rolling Fork Drainage Ditch below S16, T13, R6, Sharkey County
201	MS	Yazoo	Jones Creek below S21, T23, R5, Bolivar County
202	MS	Yazoo	Hurricane Creek below S7, T3, R7, Desoto County
203	MS	Yazoo	Oppossum Bayou below S22, T22N, R1W, Quitman County
204	MS	Yazoo	David Bayou below S1, T7, R10, Quitman County
205	MS	Yazoo	Bolton Creek below S10, T21N, R5E, Grenada County
206	MS	Yazoo	Crowder Creek below S7, T21N, R5E, Grenada County
207	MS	Yazoo	Deer Creek below S2, T16N, R7W, Washington County
208	MS	Yazoo	Jackson Bayou below S3, T16, R4, Humphreys County
209	MS	Yazoo	Muddy Bayou below S14, T30N, R3W, Coahoma County
210	MS	Yazoo	Oxbow Bayou below S9, T27N, R3W, Coahoma County
211	MS	Yazoo	Paces Bayou below S38, T15N, R3E, Warren County
212	MS	Yazoo	Hopson Bayou below S3, T25N, R3W, Coahoma County
213	MS	Yazoo	Burrows Creek below S27, T21N, R8W, Bolivar County
214	MS	Yazoo	Dry Pond below S19, T17N, R1E, Holmes County
215	MS	Yazoo	Pecan Bayou below S35, T7S, R10W, Quitman County
216	MS	Yazoo	Unnamed Creek below S19, T24N, R1W, Tallahatchie (to Staten Brake)

No.	State	Basin	Description of Segment
217	MS	Yazoo	Senatobia Creek below S33, T6, R7, Panola County
218	MS	Yazoo	Bliss Creek below S15, T17N, R4E, Warren County
219	MS	Yazoo	Durden Creek below S21, T16N, R4E, Warren County
220	MS	Yazoo	Fourmile Branch below S26, T8S, R3W, Lafayette County
221	MS	Yazoo	Big Spring Creek below S5, T4, R2, Marshall County
222	MS	Yazoo	Davidson Creek below S18, T8S, R3W, Lafayette County
223	MS	Yazoo	Tommy Bayou below S6, T22, R6, Bolivar County
224	MS	Yazoo	Big Six Creek below S33, T1, R9W, DeSoto County
225	MS	Yazoo	Black Bayou Canal No. 8 below S36, T17N, R8W, Washington County
226	MS	Yazoo	Goose Creek below S24, T8, R4, Lafayette County
227	MS	Yazoo	Sand Creek below S23, T19, R1E, Leflore County
228	MS	Yazoo	Unnamed Creek below S9, T8S, R3W, Lafayette County (to Davidson Creek)
229	MS	Yazoo	Skuna River below S10, T10S, R2E, Pontotoc County
230	MS	Yazoo	Culley Creek below S27, T7N, R2E, Madison County
231	MS	Yazoo	Otter Bayou Ditch below S18, T14N, R6W, Sharkey County (to Deer Creek)
232	MS	Yazoo	Lappatubby Creek below S30, T9S, R3E, Pontotoc County
233	MS	Yazoo	Deer Creek below S6, T13N, R6W, Sharkey County
234	MS	Yazoo	Unnamed Creek below S14, T7S, R1E, Union County (to Tallahatchie River)
235	MS	Yazoo	Jasper Creek below S21, R65, R3E, Union County
236	MS	Yazoo	Deer Creek below S14, T18N, R7W, Washington County
237	MS	Yazoo	Rock Bayou Canal No. 2 below S23, T11N, R3W, Yazoo County
238	MS	Yazoo	Jennings Bayou below S10, T19N, R1E, Leflore County
239	MS	Yazoo	Jones Bayou below S21, T23N, R5W, Bolivar County

No.	State	Basin	Description of Segment
240	MS	Yazoo	King Creek below S16, T7S, R3E, Union County
241	MS	Yazoo	Unnamed Creek below S31, T16N, T6W, Washington County (to Steele Bayou)
242	MS	Yazoo	Quitman County (to Goldwater River)
243	MS	Yazoo	Cane Creek below S30, T3, R7W, DeSoto County
244	MS	Yazoo	Bridge Creek below S25, T7S, R4E, Union County
245	MS	Yazoo	Cane Creek below S11, T9S, R1E, Pontotoc County
246	MS	Yazoo	Mud Creek below S25, T8S, R1E, Pontotoc County
247	MS	Yazoo	*Bobo Drainage Ditch below S19, T9, R8, Panola County
248	MS	Yazoo	Bayou Phalia Creek below S6, T22N, R22W, Bolivar County
249	MS	Yazoo	Sand Creek below S34, T8, R3W, Lafayette County
250	MS	Yazoo	Okannatie Creek below S13, T8S, R2E, Union County
251	MS	Yazoo	Harris Bayou below S35, T26, R4, Coahoma County
252	MS	Yazoo	Piney Creek below S16, T12N, R1E, Yazoo County
253	MS	Yazoo	Skillikalia Bayou below S3, T17N, R4E, Warren County
254	MS	Yazoo	Burrell Bayou below S16, T8S, R10W, Quitman County
255	MS	Yazoo	Unnamed Creek below S3, T7S, R2E, Union County (to Tallahatchie River)
256	MS	Yazoo	Overcup Slough below S8, T27N, R4W, Coahoma County
257	MS	Yazoo	Perry Cr. below S19, T22N, R5E, Grenada County
258	MS	Yazoo	Shady Springs Cr. below S21, T25N, R6E, Yalobusha County
259	MS	Yazoo	Walker Lake Canal below S21, T19N, R1E, Leflore County
260	MS	Yazoo	Tippo Bayou below S34, T24N, R1E, Tallahatchie County
261	MS	Yazoo	Damnation Cr. below S30, T6, R3E, Union County
262	MS	Yazoo	Lockes Cr. below S17, T6, R2, Union County

No.	State	Basin	Description of Segment
263	MS	Yazoo	Jones Cr. below S6, T8, R4E, Union County
264	MS	Yazoo	Unnamed Cr. below S22, T4, R3E, Tippah County (to Tippah Cr.)
265	MS	Yazoo	Hell Cr. below S1, T7S, R2E, Union County
266	MS	Yazoo	Martin Cr. below S11, T12N, R2W, Yazoo County
267	MS	Yazoo	Riverdale Cr. below S5, T22N, R5E, Grenada County
268	MS	Yazoo	Nolehoe Cr. below S36, T15, R7W, DeSoto County
269	MS	Yazoo	Davis Cr. below S33, T24N, R4E, Grenada County
270	MS	Yazoo	Unnamed Cr. below S2, T16N, R3E, Warren County (to McNutt Lake)
271	MS	N. Independent	Elam Creek below S12, T2, R7, Alcorn County
272	MS	N. Independent	Horn Lake Creek below S36, T15, R8W, DeSoto County
273	MS	N. Independent	Rocky Creek below S19, T1S, R7W, DeSoto County
274	MS	N. Independent	Unnamed Creek below S10, T5, R7, Prentiss County (to Tuscumbia River)
275	MS	N. Independent	Mile Branch below S11, T5, R7, Prentiss County
276	MS	N. Independent	Bridge Cr. below S10, T2, R7, Alcorn County
277	MS	N. Independent	Unnamed Cr. below S29, T4S, R6E, Prentiss County (to Dry Run)
278	MS	N. Independent	Bowden Sand Ditch below S11, T3, R1E, Benton County
279	MS	N. Independent	Unnamed Cr. below S3, T2S, R7E, Alcorn County (to Bridge Cr.)
280	MS	N. Independent	Drennan Sand Ditch below S3, T3, R1, Benton County
281	MS	N. Independent	McElroy Cr. below S26, T2, R6, Alcorn County
282	MS	N. Independent	Bean Cr. below S9, T3, R7, Alcorn County
283	MS	N. Independent	Rienzi Canal below S2, T3, R7, Alcorn County
284	MS	N. Independent	King Cr. below S34, T4S, R7E, Prentiss County
285	MS	N. Independent	Tarebreeches Cr. below S2, T2S, R6E, Alcorn County

No.	State	Basin	Description of Segment
286	MS	N. Independent	Bynum Cr. below S28, T3, R7, Alcorn County
287	MS	N. Independent	Parmichia Cr. below S11, T3, R7, Alcorn County
288	MS	N. Independent	Nonconnah Cr. below S18, T3, R11, DeSoto County
289	MS	Pearl	Mill Creek below S16, T6, R17, Pearl River County
290	MS	Pearl	Little Copiah Creek below S36, T2N, R2W, Copiah County
291	MS	Pearl	Balls Mill Creek below S9, T3, R18, Marion County
292	MS	Pearl	Hughes Creek below S10, T14, R12, Winston County
293	MS	Pearl	J Creek below S8, T5N, R2E, Rankin County
294	MS	Pearl	*Conway Slough below S24, T5N, R1E, Rankin County
295	MS	Pearl	Terrapin Skin Creek below S17, T5, R3, Rankin County
296	MS	Pearl	Purple Creek below S31, T7, R2, Madison County
297	MS	Pearl	Neely Creek below S9, T5N, R2E, Rankin County
298	MS	Pearl	D Creek below S28, T5N, R2E, Rankin County
299	MS	Pearl	Town Creek below S35, T15, R12, Winston County
300	MS	Pearl	Hanging Moss Creek below S10, T6N, R1E, Hinds County
301	MS	Pearl	Town Creek below S13, T10, R7, Leake County
302	MS	Pearl	Jumpoff Creek below S31, T2, R15, Pearl River County
303	MS	Pearl	Fuches Creek below S15, T6, R8, Scott County
304	MS	Pearl	Pelahatchie Creek below S22, T6, R6, Scott County
305	MS	Pearl	South Branch of Conway Slough below S24, T5N, R1E, Hinds County
306	MS	Pearl	Trahon Creek below S22, T5N, R1W, Hinds County
307	MS	Pearl	Big Creek below S16, T5N, R1W, Hinds County
308	MS	Pearl	C Creek below S28, T5N, R2E, Rankin County
309	MS	Pearl	Hanging Moss Creek below S5, T6N, R1E, Hinds County
310	MS	Pearl	Bahala Creek below S11, T10, R8, Copiah County
311	MS	Pearl	G Creek below S21, T5N, R3E, Rankin County

No.	State	Basin	Description of Segment
312	MS	Pearl	*I Creek below S30, T4, R18, Marion County
313	MS	Pearl	F Creek below S23, T4, R3, Rankin County
314	MS	Pearl	Johnson Creek below S4, T10, R8, Copiah County
315	MS	Pearl	Gordy Branch below S10, T6, R8, Scott County
316	MS	Pearl	Yockanookany River below S27, T14, R7, Attala County
317	MS	Pearl	E Creek below S28, T5N, R3E, Rankin County
318	MS	Pearl	Kentawka Cr. below S35, T11N, R11E, Neshoba County
319	MS	Pearl	Town Cr. below S19, T6N, R1E, Hinds County
320	MS	Pearl	CC Cr. below S2, T5N, R1W, Hinds County
321	MS	Pearl	Long Br below Westchester S/D, Pearl River County
322	MS	Pearl	Unnamed Cr. below S2, T4N, R1E, Hinds County (to Pearl R.)
323	MS	Pearl	Mikes R. & Tributaries of the Pearl River below the Northern boundary of Hancock County
324	MS	Pearl	Vaughn Cr. below S23, T3N, R1W, Hinds County
325	MS	Pearl	Kentawka Cr. below S5, T10, R12, Neshoba County
326	MS	Pearl	Indian Cr. below S18, T4N, R2E, Rankin County
327	MS	Pearl	Brashear Cr. below S19, T7, R2, Madison County
328	MS	Pearl	Clear Cr. below S32, T8N, R8E, Lincoln County
329	MS	Pearl	Warrior Br. below S24, T6, R9, Scott County
330	MS	Pearl	*Cane Cr. below S29, T8N, R4E, Rankin County
331	MS	Pearl	Gunn Br. below S16, T13, R12, Winston County
332	MS	Pearl	A Cr. below S34, T9, R7, Leake County
333	MS	Pearl	Rhodes Cr. below S15, T3, R1, Hinds County
334	MS	Pearl	Steens Cr. below S31, T4N, R2E, Rankin County
335	MS	Pearl	Unnamed Cr. below S14, T1, R2, Copiah County

No.	State	Basin	Description of Segment
336	MS	Pearl	George Branch below S13, T55, R17W, Pearl River County
337	MS	Pearl	D D Cr. below S1, T6N, R2E, Madison County
338	MS	Pearl	Yockanookany R. below S30, T17, R11, Choctaw County
339	MS	Pearl	Big Cr. below S14, T4N, R1W, Hinds County
340	MS	Pearl	Kees Cr. below S26, T7N, R8E, Lincoln County
341	MS	Pearl	Pelahatchie Cr. below S33, T6, R5, Rankin County
342	MS	Pearl	Martins Cr. below S26, T8N, R21W, Lawrence County
343	MS	Pearl	Pickens Cr. below S12, T11N, T7E, Leake County
344	MS	Pearl	Tallabougue Cr. below S13, T6N, R7E, Scott County
345	MS	Pearl	Hog Cr. below S29, T6N, R2E, Hinds County
346	MS	Pearl	Jaybird Cr. below S7, T7N, R18W, Jefferson Davis County
347	MS	Pearl	Unnamed Cr. below S28, T5N, R1W, Hinds County (to Big Cr.)
348	MS	Pearl	Cany Cr. below S25, T5N, R1W, Hinds County
349	MS	Pearl	Nanih Waiya Cr. below S18, T13N, R14E, Winston County
350	MS	Pearl	Unnamed Cr. below S34, T2N, R2E, Simpson County (to Limestone Cr.)
351	MS	Pearl	Prairie Br. below S4, T5N, R2E, Rankin County
352	MS	Pearl	Unnamed Cr. below S13, T8N, R7E, Scott County (to Shockaloo Cr.)
353	MS	Pearl	Slay Cr. below S32, T9N, R8E, Leake County
354	MS	Pearl	Richland Cr. below S28, T5N, R2E, Rankin County
355	MS	Pearl	*Buck Br. below S1, T35, T18W, Pearl River County
356	MS	Pearl	Black Snake Cr. below S15, T6S, R16W, Pearl River County
357	MS	Pearl	Connehatta Cr. below S8, T8N, R11E, Newton County
358	MS	Pearl	Flittersville Cr. below S17, T7N, R8E, Lincoln County
359	MS	Pearl	AA Cr. below S34, T10, R2, Copiah County

No.	State	Basin	Description of Segment
360	MS	Pearl	CC Cr. below S12, T5, R2, Rankin County
361	MS	Pearl	J Cr. below S16, T5N, R2E, Hinds County
362	MS	Pearl	Neely Cr. below S18, T5N, R2E, Rankin County
363	MS	Pearl	Potters Mill Cr. below S27, T6N, R1E, Hinds County
364	MS	Pearl	Woodard Cr. below S18, T21N, R12E, Neshoba County
365	MS	Pearl	BB Cr. below S22, T14N, R7E, Attala County
366	MS	Big Black	Bear Creek below S23, T9N, R2E, Madison County
367	MS	Big Black	Hays Creek below S36, T9N, R5E, Montgomery County
368	MS	Big Black	Bakers Creek below S5, T6N, R1W, Hinds County
369	MS	Big Black	Lindsey Creek below S30, T6N, R1W, Hinds County
370	MS	Big Black	Snake Creek below S20, T5, R2, Hinds County
371	MS	Big Black	Bogue Chitto Creek below S14, T6N, R1N, Hinds County
372	MS	Big Black	Straight Fence Creek below S20, T6N, R1W, Hinds County
373	MS	Big Black	Bear Creek below S8, T7N, R2E, Madison County
374	MS	Big Black	Little Bakers Creek below S14, T6N, R2W, Hinds County
375	MS	Big Black	Fourteenmile Creek below S19, T5, R2, Hinds County
376	MS	Big Black	Pigeon Roost Creek below S1, T19, R11, Webster County
377	MS	Big Black	A Creek below S14, T17N, R5E, Carroll County
378	MS	Big Black	Town Creek below S16, T8N, R1W, Madison County
379	MS	Big Black	O Cr. below S24, T5N, R2W, Hinds County
380	MS	Big Black	B Cr. below S28, T16, R4, Hinds County
381	MS	Big Black	Town Cr. below S12, T9N, R2W, Yazoo County
382	MS	Big Black	D Cr. below S34, T5N, R2W, Hinds County
383	MS	Big Black	Fivemile Cr. below S9, T3, R4, Hinds County
384	MS	Big Black	N. Cr. below S17, T6N, R2W, Hinds County
385	MS	Big Black	Bear Cr. below S25, T9, R2, Madison County

No.	State	Basin	Description of Segment
386	MS	Big Black	Big Black Canal below S9, T19, R10, Webster County
387	MS	Big Black	Burg Cr. below S13, T11N, R1E, Yazoo County
388	MS	Big Black	J Cr. below S12, T11N, R1W, Yazoo County
389	MS	Big Black	F. Cr. below S24, T19, R5, Montgomery County
390	MS	Big Black	Bachelor Cr. below S13, T9, R2, Madison County
391	MS	Big Black	Pigeon Roost Cr. below S24, T6, R8, Webster County
392	MS	Big Black	L Cr. below S13, T6N, R2W, Hinds County
393	MS	Big Black	Straight Fence Cr. below S18, T6N, R1W, Hinds County
394	MS	Big Black	P Cr. below S5, T4N, R2W, Hinds County
395	MS	Big Black	M Cr. below S23, T6N, R1W, Hinds County
396	MS	Big Black	K Cr. below S18, T6N, R1W, Hinds County
397	MS	Big Black	Wren Bayou Below S17, T16, R4, Warren County
398	MS	Big Black	G Cr. below S36, T12, T3E, Holmes County
399	MS	Big Black	H Cr. below S34, T14, R6, Attala County
400	MS	Big Black	Lottville Cr. below S31, T10N, R5E, Madison County
401	MS	Big Black	Q Cr. below S12, T5N, R3W, Hinds County
402	MS	Big Black	Big Mound Cr. below S9, T9N, R2W, Yazoo County
403	MS	Big Black	I Cr. below S27, T9N, R2E, Madison County
404	MS	Big Black	Unnamed Creek below S19, T5, R2, Hinds County (to Fourteenmile Creek)
405	MS	S. Independent	East Fork of Bogue Chitto Creek below S25, T7, R7, Lincoln County
406	MS	S. Independent	Town Creek below S24, T3, R7, Pike County
407	MS	S. Independent	Little Tangipahoe River below S23, T3, R7, Pike County
408	MS	S. Independent	Mammy Judy Bayou below S49, T11N, R13E, Claiborne County
409	MS	S. Independent	Clear Creek below S36, T4, R7, Pike County
410	MS	S. Independent	Island Creek below S47, T9, R1, Jefferson County

No.	State	Basin	Description of Segment
411	MS	S. Independent	Centreville Creek below S37, T2, R2, Wilkinson County
412	MS	S. Independent	Unnamed Creek below S31, T16N, R4E, Warren County (to Hatcher Bayou)
413	MS	S. Independent	Coles Creek below S46, T9, R1, Jefferson County
414	MS	S. Independent	Stafford Creek below S2, T1, R1, Wilkinson County
415	MS	S. Independent	Sara Bayou below S29, T2N, R2W, Wilkinson County
416	MS	S. Independent	Unnamed Cr. below S38, T1N, R2W, Wilkinson County (to Jones Cr.)
417	MS	S. Independent	Unnamed Cr. below S20, T3, R4, Hinds County (to Whiteoak Cr.)
418	MS	S. Independent	Second Cr. below S34, T7N, R2W, Adams County
419	MS	S. Independent	Clabber Cr. below S23, T4, R7, Pike County
420	MS	S. Independent	Morgan Bayou below S6, T14N, R3E, Warren County
421	MS	S. Independent	Unnamed Cr. below S6, T15N, R4E, Warren County (to Hatcher Bayou)
422	MS	S. Independent	Red Bone Cr. below S30, T15N, R4E, Warren County
423	MS	S. Independent	Hatcher Bayou below S7, T5, R4, Warren County
424	MS	S. Independent	Beaver Cr. below S33, T2N, R3E, Amite County
425	MS	S. Independent	Booth's Cr. below S45, T12N, R4E, Claiborne County
426	MS	S. Independent	Unnamed Cr. below S16, T2N, R4E, Amite County (to Carroll Cr.)
427	MS	S. Independent	Unnamed Cr. below S10, T2N, R4E, Amite County (to Carroll County)
428	MS	S. Independent	Minnehaha Cr. below S34, T3N, R8E, Pike County
429	MS	S. Independent	Rollins Cr. below S32, T6N, R3E, Franklin County
430	MS	S. Independent	Unnamed Cr. below S17, T16N, R4E, WArren County (to Shiloh Cr.)
431	MS	S. Independent	Fourmile Bayou below S28, T15N, R3E, Warren County
432	MS	S. Independent	Drakes Bayou below S59. T13N, R3E, Claiborne County

No.	State	Basin	Description of Segment
433	MS	S. Independent	West Fork of Thompson's Cr. below S39, T2N, R2W, Wilkinson County
434	MS	S. Independent	Jones Cr. below S15, T10N, R8E, Copiah County
435	MS	S. Independent	Carrol Cr. below S9, T2N, R4E, Amite County
436	MS	L. Tonbigbee	Scooba Cr. below S8, T11N, R18E, Kemper County
437	MS	L. Tonbigbee	Snoody Cr. below S28, T11N, R16E, Kemper County
438	MS	L. Tonbigbee	Hull Branch below S29, T11, R16, Kemper County
439	MS	L. Tonbigbee	Wildhorse Cr. below S1, T7N, R16E, Lauderdale County
440	MS	Tennessee	Indian Cr. below S18, T3, R11, Tishomingo County

*Stream segments that could not be located on map.

REGION IV

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	NC	Cape Tear River Basin	Greensboro
2.	NC	Cape Tear River Basin	Durham-New Hope
3.	NC	Cape Tear River Basin	Chapel Hill
4.	NC	Cape Tear River Basin	Wallace
5.	NC	Cape Tear River Basin	High Point
6.	NC	Cape Tear River Basin	Dunn
7.	NC	Cape Tear River Basin	Wrightsville
8.	NC	Cape Tear River Basin	Clinton
9.	NC	Cape Tear River Basin	Pittsboro
10.	NC	Cape Tear River Basin	Reidsville
11.	NC	Cape Tear River Basin	Mt. Olive
12.	NC	Cape Tear River Basin	Fayetteville
13.	NC	Catawba and Broad River Basin	Charlotte
14.	NC	Catawba and Broad River Basin	Gastonia-Long Creek
15.	NC	Catawba and Broad River Basin	Gastonia Catawba Creek
16.	NC	Catawba and Broad River Basin	Mt. Holly
17.	NC	Catawba and Broad River Basin	Waxhaw
18.	NC	Yadkin-Lumber River Basin	Concord
19.	NC	Yadkin-Lumber River Basin	Monroe
20.	NC	Yadkin-Lumber River Basin	Davidson-Mooresville
21.	NC	Yadkin-Lumber River Basin	High Point

No.	State	Basin	Description of Segment
22.	NC	Yadkin-Lumber River Basin	Albemarle
23.	NC	Neuse River Basin	Durham-Neuse
24.	NC	Neuse River Basin	Raleigh
25.	NC	Neuse River Basin	Wilson
26.	NC	White Oak River Basin	Morehead City
27.	NC	Chowan and Pasquatak River Basin	Ahoskee
28.	NC	Chowan and Pasquatak River Basin	Edenton
29.	NC	Chowan and Pasquatak River Basin	Colerain
30.	NC	Chowan and Pasquatak River Basin	Cape Hatteras
31.	NC	Roanoke River Basin	Roxboro

NOTE: North Carolina classified their sub-basins as either water quality or effluent limited, however, there are water quality limited stream segments in effluent limited sub-basins and effluent limited stream segments in water quality limited sub-basins. The State is in a process of reclassification of stream segments.

REGION IV

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	SC	Yadkin-Pee Dee River Basin	Winyah Bay, Lower Waccamaw River
2.	SC	Yadkin-Pee Dee River Basin	Pee Dee Coastal
3.	SC	Yadkin-Pee Dee River Basin	Middle Black River
4.	SC	Yadkin-Pee Dee River Basin	Upper Black River
5.	SC	Yadkin-Pee Dee River Basin	Pocotaligo River
6.	SC	Yadkin-Pee Dee River Basin	Intercoastal Waterway (Horry County)
7.	SC	Yadkin-Pee Dee River Basin	Upper Waccamaw River
8.	SC	Yadkin-Pee Dee River Basin	Lower Little Pee Dee River
9.	SC	Yadkin-Pee Dee River Basin	Lumber River
10.	SC	Yadkin-Pee Dee River Basin	Lower Pee Dee River
11.	SC	Yadkin-Pee Dee River Basin	Lake Robinson and Black Creek
12.	SC	Yadkin-Pee Dee River Basin	Middle Lynches River
13.	SC	Yadkin-Pee Dee River Basin	Little Lynches River
14.	SC	Santee-Cooper River Basin	Lake Marion
15.	SC	Santee-Cooper River Basin	Bulls Bay Coastal
16.	SC	Santee-Cooper River Basin	Wando River
17.	SC	Santee-Cooper River Basin	Stono River and Charleston Harbor
18.	SC	Santee-Cooper River Basin	Upper Ashley River, Ashley River & Cypress Swamp
19.	SC	Santee-Cooper River Basin	Upper Cooper River
20.	SC	Santee-Cooper River Basin	Lake Moultrie
21.	SC	Santee-Cooper River Basin	Congaree River
22.	SC	Santee-Cooper River Basin	Lower Wateree River
23.	SC	Santee-Cooper River Basin	Wateree Lake
24.	SC	Santee-Cooper River Basin	Fishing Creek
25.	SC	Santee-Cooper River Basin	Lake Wylie

No.	State	Basin	Description of Segment
26.	SC	Santee-Cooper River Basin	Lake Murray
27.	SC	Santee-Cooper River Basin	Little Saluda River
28.	SC	Santee-Cooper River Basin	Lower Saluda River
29.	SC	Santee-Cooper River Basin	Lake Greenwood
30.	SC	Santee-Cooper River Basin	Reedy River
31.	SC	Santee-Cooper River Basin	Little River
32.	SC	Santee-Cooper River Basin	Middle Broad River
33.	SC	Santee-Cooper River Basin	Upper Broad River
34.	SC	Santee-Cooper River Basin	Lower Enoree River
35.	SC	Santee-Cooper River Basin	Upper Enoree River
36.	SC	Santee-Cooper River Basin	Lower Tyger River
37.	SC	Santee-Cooper River Basin	Upper Tyger River
38.	SC	Santee-Cooper River Basin	Pacolet River
39.	SC	Edisto-Combahee River Basin	Lower Edisto River
40.	SC	Edisto-Combahee River Basin	Four Hole Swamp
41.	SC	Edisto-Combahee River Basin	Upper North Fork Edisto River
42.	SC	Edisto-Combahee River Basin	Lower Salkehatchie River
43.	SC	Edisto-Combahee River Basin	Upper Salkehatchie River
44.	SC	Edisto-Combahee River Basin	Port Royal Sound, Beaufort, May, Colleton, Broad Rivers
45.	SC	Edisto-Combahee River	Upper Coosawhatchie River
46.	SC	Savannah River Basin	Lower Savannah River
47.	SC	Savannah River Basin	Middle Savannah River
48.	SC	Savannah River Basin	Horse Creek

No.	State	Basin	Description of Segment
49.	SC	Savannah River Basin	Clark Hill Reservoir
50.	SC	Savannah River Basin	Rocky River
51.	SC	Savannah River Basin	Hartwell Reservoir
52.	SC	Savannah River Basin	Lake Keowee

REGION IV

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	TN	Holston River Basin	Holston River (R.M. 0.0 - 52.4)
2.	TN	Holston River Basin	Holston River (R.M. 52.4 - 106.2)
3.	TN	Holston River Basin	South Fork Holston River (R.M. 0.0 - 5.7)
4.	TN	Holston River Basin	South Fork Holston River (R.M. 5.7 - 8.2)
5.	TN	Holston River Basin	South Fork Holston River (R.M. 8.2 - 18.6)
6.	TN	Holston River Basin	Watauga River (R.M. 0.0 - 16.4)
7.	TN	Holston River Basin	Watauga River (R.M. 16.4 - 26.4)
8.	TN	Holston River Basin	N. F. Holston River
9.	TN	Holston River Basin	*Woods Creek - Knox County (R.M. 0.0 - 0.6)
10.	TN	Holston River Basin	*Woods Creek - Knox County (R.M. 0.6 - origin)
11.	TN	Holston River Basin	Roseberry Creek - Knox County
12.	TN	Holston River Basin	Big Flat Creek - Knox County
13.	TN	Holston River Basin	Workhouse Creek - Knox County
14.	TN	Holston River Basin	*Mossy Creek - Jefferson County
15.	TN	Holston River Basin	Lost Creek - Jefferson County
16.	TN	Holston River Basin	Mooresburg Branch - Hawkins County
17.	TN	Holston River Basin	*Crockett Creek - Hawkins County
18.	TN	Holston River Basin	*Forgey Creek & tributaries at 1.4 - Hawkins County
19.	TN	Holston River Basin	Stoney Point Cr. & tributaries at 0.2 - Hawkins County
20.	TN	Holston River Basin	Sevier Branch - Hawkins County
21.	TN	Holston River Basin	*Alexander Cr. & tributaries at 3.5 - Hawkins County
22.	TN	Holston River Basin	*Arnott Br. & tributaries at 1.3 - Hawkins Creek
23.	TN	Holston River Basin	*Winegar Springs - Sullivan County

No.	State	Basin	Description of Segment
24.	TN	Holston River Basin	*Dolland Branch - Sullivan County
25.	TN	Holston River Basin	Reedy Creek - Sullivan County
26.	TN	Holston River Basin	Fall Creek - Sullivan County
27.	TN	Holston River Basin	*Booher Creek - Sullivan County (R.M. 3.2 - 3.4)
28.	TN	Holston River Basin	*Muddy Creek - Sullivan County
29.	TN	Holston River Basin	*White Top Creek - Sullivan County
30.	TN	Holston River Basin	*Beck (Back) Creek - Sullivan County
31.	TN	Holston River Basin	Beaver Creek - Sullivan County
32.	TN	Holston River Basin	Cedar Creek - Sullivan County
33.	TN	Holston River Basin	*Steele Creek - Sullivan County
34.	TN	Holston River Basin	*Harper Creek - Sullivan County
35.	TN	Holston River Basin	Booher Creek - Sullivan County (R.M. 0.0 - 0.6)
36.	TN	Holston River Basin	*Spring Creek and tributaries - Hambler County
37.	TN	Holston River Basin	*Fall Creek - Hambler County
38.	TN	Holston River Basin	Buffalo Creek - Carter County
39.	TN	Holston River Basin	Roan Creek - Johnson County
40.	TN	Holston River Basin	Town Creek - Johnson County
41.	TN	Holston River Basin	Patrick Branch - Goose Creek - Johnson County
42.	TN	Holston River Basin	Sinking Creek (west) - Washington County
43.	TN	Holston River Basin	Sinking Creek (east) - Washington County
44.	TN	Holston River Basin	*Ford Creek - Washington County
45.	TN	Holston River Basin	Brush Creek - Washington County
46.	TN	Holston River Basin	Cedar Creek - Washington County
47.	TN	Holston River Basin	Boones Creek - Washington County
48.	TN	Holston River Basin	*Spring Branch - Washington County

No.	State	Basin	Description of Segment
49.	TN	Memphis Area Basin	Nonconnah Creek & Tribs.
50.	TN	Memphis Area Basin	Johns Creek (Nonconnah)
51.	TN	Memphis Area Basin	Ten Mile Creek (Nonconnah)
52.	TN	Memphis Area Basin	Cane Creek and Tributaries (Nonconnah)
53.	TN	Memphis Area Basin	McKellar Lake
54.	TN	Memphis Area Basin	Horn Lake Cutoff
55.	TN	Memphis Area Basin	Horn Lake Creek
56.	TN	Memphis Area Basin	*Workhouse Bayou
57.	TN	Memphis Area Basin	Wolf River Lagoon
58.	TN	Memphis Area Basin	Wolf River (R.M. 0.0 - 6.9)
59.	TN	Memphis Area Basin	Wolf River (R.M. 6.9 - 30.9)
60.	TN	Memphis Area Basin	Trib. to Wolf River at 40.2
61.	TN	Memphis Area Basin	Fletcher Creek (Wolf)
62.	TN	Memphis Area Basin	Unnamed Trib. at 1.8 (Wolf) Field Creek
63.	TN	Memphis Area Basin	*Sandy Branch (Wolf)
64.	TN	Memphis Area Basin	Cypress Creek (Wolf)
65.	TN	Memphis Area Basin	Trib. at 3.8 (Wolf) Grays Creek
66.	TN	Memphis Area Basin	*Hall Creek (Wolf)
67.	TN	Memphis Area Basin	Trib. at 13.1 (Wolf) Shaws Creek
68.	TN	Memphis Area Basin	Trib. to (Wolf) N.F. Wolf River at 3.0
69.	TN	Memphis Area Basin	Loosahatchie River and Tribs. not Listed Elsewhere
70.	TN	Memphis Area Basin	Trib. to Loosahatchie River at 49.0
71.	TN	Memphis Area Basin	Big Creek and Unnamed Tributaries
72.	TN	Memphis Area Basin	North Fork Creek and Unnamed Tributaries
73.	TN	Memphis Area Basin	Cypress Creek and Unnamed Tributaries (Loosahatchie)

No.	State	Basin	Description of Segment
74.	TN	Memphis Area Basin	Crooked Creek and Unnamed Tributaries
75.	TN	Memphis Area Basin	West Beaver Creek
76.	TN	Memphis Area Basin	East Beaver Creek
77.	TN	Memphis Area Basin	*Weber Branch
78.	TN	Memphis Area Basin	*Casper Creek
79.	TN	Memphis Area Basin	Unnamed Trib. at West Beaver Creek at 4.0
80.	TN	Memphis Area Basin	Davis Creek
81.	TN	Memphis Area Basin	Little Cypress Creek
82.	TN	Memphis Area Basin	*Scotts Creek
83.	TN	Memphis Area Basin	*Oliver Creek
84.	TN	Memphis Area Basin	*Hall Creek
85.	TN	Memphis Area Basin	*Town Branch
86.	TN	Lower Cumberland River Basin	Cumberland River (R.M. 180.0 - 191.8)
87.	TN	Lower Cumberland River Basin	Cumberland River (R.M. 191.8 - 216.4)
88.	TN	Lower Cumberland River Basin	Lick Creek (Stewart)
89.	TN	Lower Cumberland River Basin	Red River
90.	TN	Lower Cumberland River Basin	Big West Fork
91.	TN	Lower Cumberland River Basin	Little West Fork
92.	TN	Lower Cumberland River Basin	Stones River
93.	TN	Lower Cumberland River Basin	*E. F. Hamilton Creek
94.	TN	Lower Cumberland River Basin	Spring Creek (Rutherford)
95.	TN	Lower Cumberland River Basin	Hurricane Creek (Davidson)

No.	State	Basin	Description of Segment
96.	TN	Lower Cumberland River Basin	E. F. Stones River
97.	TN	Lower Cumberland River Basin	W. F. Stones River (R.M. 0.0 - 5.8)
98.	TN	Lower Cumberland River Basin	W. F. Stones River (R.M. 5.8 - Origin)
99.	TN	Lower Cumberland River Basin	Middle Fork Stones River
100.	TN	Lower Cumberland River Basin	Harpeth River
101.	TN	Lower Cumberland River Basin	Leipers Fork Creek (Williamson)
102.	TN	Lower Cumberland River Basin	Overall Creek (Williamson)
103.	TN	Lower Cumberland River Basin	Richland Creek (Davidson)
104.	TN	Lower Cumberland River Basin	Mill Creek
105.	TN	Lower Cumberland River Basin	*Brown's Creek
106.	TN	Lower Cumberland River Basin	Trace Creek (Dickson)
107.	TN	Lower Cumberland River Basin	Jones Creek (Dickson)
108.	TN	Lower Cumberland River Basin	Cedar Creek (Wilson)
109.	TN	Lower Cumberland River Basin	Silver Springs Branch (Wilson)
110.	TN	Lower Cumberland River Basin	Paint Rock Creek (Scott)
111.	TN	Lower Cumberland River Basin	Elk Fork Creek (Campbell)
112.	TN	Lower Cumberland River Basin	Trib. to Blade Creek (Scott)
113.	TN	Lower Cumberland River Basin	Brimstone Creek

No.	State	Basin	Description of Segment
114.	TN	Lower Cumberland River Basin	Smoky Creek
115.	TN	Lower Cumberland River Basin	*Stallion Branch
116.	TN	Lower Cumberland River Basin	Laurel Fork Creek
117.	TN	Lower Cumberland River Basin	Indian Fork Creek
118.	TN	Lower Cumberland River Basin	*Cage Creek
119.	TN	Lower Cumberland River Basin	Cheatham Branch (Rutherford)
120.	TN	Lower Cumberland River Basin	*Town Creek (Sumner)
121.	TN	Lower Cumberland River Basin	Hinson Creek (Stewart)
122.	TN	Lower Cumberland River Basin	Dry Creek (Davidson)
123.	TN	Lower Cumberland River Basin	*Blue Spring Creek (Cheatham)
124.	TN	Lower Cumberland River Basin	Mansker Creek
125.	TN	Lower Cumberland River Basin	Barton's Creek (Wilson)
126.	TN	Lower Cumberland River Basin	*Earthman Fork Creek (Davidson)
127.	TN	Lower Cumberland River Basin	Station Camp Creek (Sumner)
128.	TN	Lower Cumberland River Basin	*Bear Creek (Dickson)
129.	TN	Lower Cumberland River Basin	Piney Creek (Montgomery)
130.	TN	Lower Cumberland River Basin	*Town Branch (Dickson)
131.	TN	Lower Cumberland River Basin	Brush Creek (Williamson)

No.	State	Basin	Description of Segment
132.	TN	Lower Cumberland River Basin	*Black Branch (Robertson)
133.	TN	Lower Cumberland River Basin	Unnamed Trib. to Jones Branch (Sumner)
134.	TN	Lower Cumberland River Basin	Jones Branch
135.	TN	Lower Cumberland River Basin	Beaver Dam Creek (Dickson)
136.	TN	Lower Cumberland River Basin	Johnson Creek (Dickson)
137.	TN	Lower Cumberland River Basin	*Patterson's Branch (Sumner)
138.	TN	Lower Cumberland River Basin	*Sullivan Branch (Cheatham)
139.	TN	Lower Cumberland River Basin	Stewart Creek (Rutherford)
140.	TN	Lower Cumberland River Basin	Little Harpeth River
141.	TN	Lower Cumberland River Basin	*Cave Creek (Wilson)
142.	TN	Lower Cumberland River Basin	*Christmas Creek (Rutherford)
143.	TN	Lower Cumberland River Basin	Stoners Creek
144.	TN	Lower Cumberland River Basin	*Gin Branch (Williamson)
145.	TN	Lower Cumberland River Basin	*Big McAdoo Creek (Montgomery)
146.	TN	Lower Cumberland River Basin	Caney Fork Creek (Williamson)
147.	TN	Lower Cumberland River Basin	*Cartwright Creek (Williamson)
148.	TN	Lower Cumberland River Basin	Carr Creek (Robertson)
149.	TN	Lower Cumberland River Basin	*Little Goose Creek

No.	State	Basin	Description of Segment
150.	TN	Lower Cumberland River Basin	*Unnamed Trib. to W. F. Drakes Creek
151.	TN	Lower Cumberland River Basin	Cripple Creek (Rutherford)
152.	TN	Lower Cumberland River Basin	*Town Creek (Macon)
153.	TN	Lower Cumberland River Basin	Smith Creek (Wilson)
154.	TN	Lower Cumberland River Basin	*Bradley Creek (Rutherford)
155.	TN	Lower Cumberland River Basin	Sulphur Spring Branch (Montgomery)
156.	TN	Lower Cumberland River Basin	*Half Pone Creek (Montgomery)
157.	TN	Lower Cumberland River Basin	*Ewing Creek (Davidson)
158.	TN	Lower Cumberland River Basin	*Sumner Creek (Robertson)
159.	TN	Lower Cumberland River Basin	*Hunting Camp Creek (Williamson)
160.	TN	Lower Cumberland River Basin	Sinking Creek (Wilson)
161.	TN	Lower Cumberland River Basin	Spencer Creek (Williamson)
162.	TN	Lower Cumberland River Basin	Unnamed Trib. Sulfur Br. (Davidson)
163.	TN	Lower Cumberland River Basin	Round Lick Creek (Wilson)
164.	TN	Lower Cumberland River Basin	*Dutch Creek (Sumner)
165.	TN	Lower Cumberland River Basin	*Bartree Branch (Montgomery)
166.	TN	Lower Cumberland River Basin	*Sumner Branch
167.	TN	Lower Cumberland River Basin	*Unnamed Trib. of Finch Branch

No.	State	Basin	Description of Segment
168.	TN	Lower Cumberland River Basin	*Private Pond Unnamed Trib. Spring Creek
169.	TN	Clinch River Basin	Clinch River (R.M. 0.0 - 23.1)
170.	TN	Clinch River Basin	Clinch River (R.M. 23.1 - 80.0)
171.	TN	Clinch River Basin	Clinch River (R.M. 80.0 - 177.4)
172.	TN	Clinch River Basin	Emory River
173.	TN	Clinch River Basin	Davis Branch
174.	TN	Clinch River Basin	Unnamed Tribs. to Emory River at 16.4
175.	TN	Clinch River Basin	Crooked Fork Creek & Tribs.
176.	TN	Clinch River Basin	Obed River
177.	TN	Clinch River Basin	Daddy's Creek
178.	TN	Clinch River Basin	Bagwell Branch
179.	TN	Clinch River Basin	Brown Creek
180.	TN	Clinch River Basin	*North Creek
181.	TN	Clinch River Basin	*Basses Creek
182.	TN	Clinch River Basin	*Scantling Branch
183.	TN	Clinch River Basin	Fox Creek
184.	TN	Clinch River Basin	*Young Creek
185.	TN	Clinch River Basin	Poplar Creek (R.M. 0.0 - 2.5)
186.	TN	Clinch River Basin	Poplar Creek (R.M. 2.5 - 16.4)
187.	TN	Clinch River Basin	East Fork Poplar Creek
188.	TN	Clinch River Basin	Grassy Creek
189.	TN	Clinch River Basin	White Oak Creek
190.	TN	Clinch River Basin	Melton Branch
191.	TN	Clinch River Basin	*Conner Creek
192.	TN	Clinch River Basin	*McCoy Branch
193.	TN	Clinch River Basin	*Worthington Branch

No.	State	Basin	Description of Segment
194.	TN	Clinch River Basin	*Unnamed Trib. to Yarnell Branch 0.6
195.	TN	Clinch River Basin	*Yarnell Branch
196.	TN	Clinch River Basin	Hinds Creek
197.	TN	Clinch River Basin	Buffalo Creek
198.	TN	Clinch River Basin	Blowing Spring Fork
199.	TN	Clinch River Basin	*Cane Creek
200.	TN	Clinch River Basin	Coal Creek
201.	TN	Clinch River Basin	Right Fork Coal Creek
202.	TN	Clinch River Basin	*Unnamed Trib. to Coal Creek at 8.6
203.	TN	Clinch River Basin	Cove Creek (R.M. 0.0 - 19.7)
204.	TN	Clinch River Basin	Cove Creek (R.M. 19.7 - Origin)
205.	TN	Clinch River Basin	*Little Cove Creek
206.	TN	Clinch River Basin	Big Creek
207.	TN	Clinch River Basin	*Cuckle Creek
208.	TN	Clinch River Basin	*Gap Creek
209.	TN	Clinch River Basin	*Unnamed Trib. to Bryams Creek, 2.3
210.	TN	Clinch River Basin	*Bryams Creek
211.	TN	Clinch River Basin	Mill Creek
212.	TN	Clinch River Basin	*Poor Land Creek
213.	TN	Clinch River Basin	*Unnamed Trib. to Hunting Creek, 2.0
214.	TN	Clinch River Basin	*Hunting Creek
215.	TN	Clinch River Basin	Russell Creek
216.	TN	Clinch River Basin	New River
217.	TN	Clinch River Basin	Flat Gap Creek
218.	TN	Clinch River Basin	Big War Branch
219.	TN	Clinch River Basin	Beaver Creek & Tribs.

No.	State	Basin	Description of Segment
220.	TN	Clinch River Basin	*Scarboro Creek
221.	TN	Clinch River Basin	Bullrun Creek (R.M. 0.0 - 31.0)
222.	TN	Clinch River Basin	*Blaze Branch
223.	TN	Clinch River Basin	*Nelson Branch
224.	TN	Clinch River Basin	Bullrun Creek (R.M. 0.0 - 31.0)
225.	TN	Clinch River Basin	*Wilcox Branch
226.	TN	Clinch River Basin	North Fork Bullrun Creek
227.	TN	Tennessee River Basin - Western Valley	Bailey Fork Creek
228.	TN	Tennessee River Basin - Western Valley	Town Creek
229.	TN	Tennessee River Basin - Western Valley	Clifty Creek
230.	TN	Tennessee River Basin - Western Valley	S. Fork Hurricane Creek
231.	TN	Tennessee River Basin - Western Valley	Cane Creek (Houston)
232.	TN	Tennessee River Basin - Western Valley	Trace Creek
233.	TN	Tennessee River Basin - Western Valley	Cane Creek (Benton)
234.	TN	Tennessee River Basin - Western Valley	North Indian Creek
235.	TN	Tennessee River Basin - Western Valley	Eagle Creek
236.	TN	Tennessee River Basin - Western Valley	*Morgan Creek
237.	TN	Tennessee River Basin - Western Valley	Beech River
238.	TN	Tennessee River Basin - Western Valley	*Rushing Creek

No.	State	Basin	Description of Segment
239.	TN	Tennessee River Basin - Western Valley	Harman Creek
240.	TN	Tennessee River Basin - Western Valley	*Bear Creek
241.	TN	Tennessee River Basin - Western Valley	Wolf Creek (Henderson)
242.	TN	Tennessee River Basin - Western Valley	East Prong Doe Creek
243.	TN	Tennessee River Basin - Western Valley	*Little Hurricane Creek
244.	TN	Tennessee River Basin - Western Valley	Horse Creek
245.	TN	Tennessee River Basin - Western Valley	Dollar Creek
246.	TN	Tennessee River Basin - Western Valley	*Chambers Creek
247.	TN	Tennessee River Basin - Western Valley	*Middle Fork Butter Creek
248.	TN	Tennessee River Basin - Western Valley	Cherry Creek
249.	TN	Tennessee River Basin - Western Valley	Little Dry Creek
250.	TN	Tennessee River Basin - Western Valley	Cypress Creek
251.	TN	Tennessee River Basin - Western Valley	South Fork Blue Creek
252.	TN	Tennessee River Basin - Western Valley	*Ditch to Big Sandy River
253.	TN	Tennessee River Basin - Western Valley	*Trib. to Walnut Fork Creek, 4.7
254.	TN	Tennessee River Basin Western Valley	*Two Mile Creek
255.	TN	Upper Cumberland River Basin	*Town Creek (White)
256.	TN	Upper Cumberland River Basin	Collins River

No.	State	Basin	Description of Segment
257.	TN	Upper Cumberland River Basin	Big Creek (Grundy)
258.	TN	Upper Cumberland River Basin	East Fork Obey River
259.	TN	Upper Cumberland River Basin	West Fork Obey River
260.	TN	Upper Cumberland River Basin	Meadow Creek
261.	TN	Upper Cumberland River Basin	Big Laurel Creek
262.	TN	Upper Cumberland River Basin	Officer's Branch
263.	TN	Upper Cumberland River Basin	*Big Piney Creek
264.	TN	Upper Cumberland River Basin	Little Laurel Creek
265.	TN	Upper Cumberland River Basin	Cub Creek
266.	TN	Upper Cumberland River Basin	Roaring River
267.	TN	Upper Cumberland River Basin	*Trib. to Millstone Br. (VanBuren)
268.	TN	Upper Cumberland River Basin	*Millstone Branch (VanBuren)
269.	TN	Upper Cumberland River Basin	*Buck Branch (Putnam)
270.	TN	Upper Cumberland River Basin	Fall Creek (DeKalb)
271.	TN	Upper Cumberland River Basin	*Clear Fork Creek (DeKalb)
272.	TN	Upper Cumberland River Basin	Bartons Branch (Putnam)
273.	TN	Upper Cumberland River Basin	*Mile Branch (Warren)
274.	TN	Upper Cumberland River Basin	*Trace Creek (Clay)

No.	State	Basin	Description of Segment
275.	TN	Upper Cumberland River Basin	Cane Creek (Putnam)
276.	TN	Upper Cumberland River Basin	*McWilliams Creek (Bledsoe)
277.	TN	Upper Cumberland River Basin	Bee Creek (Bledsoe)
278.	TN	Upper Cumberland River Basin	*Hickman Creek (DeKalb)
279.	TN	Upper Cumberland River Basin	Bear Creek (Putnam)
280.	TN	Upper Cumberland River Basin	Mine Lick Creek (Putnam)
281.	TN	Upper Cumberland River Basin	*Town Creek (Pickett)
282.	TN	Upper Cumberland River Basin	*Pigeon Roost Creek (Putnam)
283.	TN	Upper Cumberland River Basin	Fall Creek (VanBuren)
284.	TN	Upper Cumberland River Basin	*Town Creek (Overton)
285.	TN	Upper Cumberland River Basin	*Keel Branch
286.	TN	Upper Cumberland River Basin	*Rock Castle Creek (Fentress)
287.	TN	Upper Cumberland River Basin	New River
288.	TN	Upper Cumberland River Basin	*Litton Fork Pine Creek (Scott)
289.	TN	Upper Cumberland River Basin	Tackett Creek (Claiborne)
290.	TN	Upper Cumberland River Basin	*Stewart Creek (Fentress)
291.	TN	Upper Cumberland River Basin	*Phillips Creek (Scott)
292.	TN	Hatchie Basin	Hatchie River and Tributaries

No.	State	Basin	Description of Segment
293.	TN	Hatchie Basin	*Town Creek
294.	TN	Hatchie Basin	Cane Creek & Tribs.
295.	TN	Hatchie Basin	Hyde Creek
296.	TN	Hatchie Basin	Cypress Creek (Hardeman)
297.	TN	Hatchie Basin	*Sugar Creek
298.	TN	Hatchie Basin	Big Muddy Canal & Tribs.
299.	TN	Hatchie Basin	Unnamed Trib. to Hatchie River at 30.2
300.	TN	Hatchie Basin	Cane Branch/Trib. at 3.6
301.	TN	Hatchie Basin	Porter Creek/Trib. at 9.0
302.	TN	Hatchie Basin	*Myron Creek/Trib. at 2.0
303.	TN	Hatchie Basin	*Mill Creek
304.	TN	Hatchie Basin	*Hickory Creek
305.	TN	Obion - Forked Deer Basin	*Biffle Creek
306.	TN	Obion - Forked Deer Basin	Cool Springs Branch
307.	TN	Obion - Forked Deer Basin	Mill Creek
308.	TN	Obion - Forked Deer Basin	*Hoosier Creek
309.	TN	Obion - Forked Deer Basin	*First Creek
310.	TN	Obion - Forked Deer Basin	Harris Fork Creek
311.	TN	Obion - Forked Deer Basin	Cane Creek
312.	TN	Obion - Forked Deer Basin	*Brassfield Creek
313.	TN	Obion - Forked Deer Basin	Unnamed Trib. to Rutherford Fork at 4.5
314.	TN	Obion - Forked Deer Basin	Bradford Creek

No.	State	Basin	Description of Segment
315.	TN	Obion - Forked Deer Basin	Minor Tribs. to Middle Fork Obion River
316.	TN	Obion - Forked Deer Basin	Mud Creek
317.	TN	Obion - Forked Deer Basin	*Sand Creek
318.	TN	Obion - Forked Deer Basin	Guins Creek & Tribs.
319.	TN	Obion - Forked Deer Basin	*Prichett Branch
320.	TN	Obion - Forked Deer Basin	*Morris Branch
321.	TN	Obion - Forked Deer Basin	Clear Creek
322.	TN	Obion - Forked Deer Basin	*Wolf Creek
323.	TN	Obion - Forked Deer Basin	Trib. to Obion River at 56.2
324.	TN	Obion - Forked Deer Basin	*Flipper Creek
325.	TN	Obion - Forked Deer Basin	*Lick Creek
326.	TN	Obion - Forked Deer Basin	*Poison Branch
327.	TN	Obion - Forked Deer Basin	South Fork Forked Deer & Tribs.
328.	TN	Obion - Forked Deer Basin	Trib. to South Fork Forked Deer at 72.3
329.	TN	Obion - Forked Deer Basin	Trib. to Buck Creek at 4.5
330.	TN	Obion - Forked Deer Basin	*Little Nixon
331.	TN	Obion - Forked Deer Basin	Nixon Creek
332.	TN	Obion - Forked Deer Basin	*Sand Creek

No.	State	Basin	Description of Segment
333.	TN	Obion - Forked Deer Basin	*Hog Creek
334.	TN	Obion - Forked Deer Basin	Trib. to South Fork Forked Deer at 8.6
335.	TN	Obion - Forked Deer Basin	*Cane Creek
336.	TN	Obion - Forked Deer Basin	Middle Fork Forked Deer & Tribs.
337.	TN	Obion - Forked Deer Basin	*Maize Creek
338.	TN	Obion - Forked Deer Basin	Johnson Creek & Tribs.
339.	TN	Obion - Forked Deer Basin	Sugar Creek
340.	TN	Obion - Forked Deer Basin	Turkey Creek (Chester)
341.	TN	Obion - Forked Deer Basin	*Turkey Creek (Gibson)
342.	TN	Obion - Forked Deer Basin	*Trib. to Barnett Branch at 1.8
343.	TN	Obion - Forked Deer Basin	Meridian Creek
344.	TN	Obion - Forked Deer Basin	*DeLoach Creek
345.	TN	Obion - Forked Deer Basin	North Fork Forked Deer
346.	TN	Obion - Forked Deer Basin	*Sumrow Creek
347.	TN	Obion - Forked Deer Basin	*Panther Creek & Tribs.
348.	TN	Obion - Forked Deer Basin	*Anderson Branch
349.	TN	Obion - Forked Deer Basin	*RoEllen Creek
350.	TN	Obion - Forked Deer Basin	*Hicks Creek

No.	State	Basin	Description of Segment
351.	TN	Obion - Forked Deer Basin	Trib. to Middle Fork Forked Deer at 54.9
352.	TN	Elk River and Shoal Creek	Rock Creek
353.	TN	Elk River and Shoal Creek	Wagner Creek
354.	TN	Elk River and Shoal Creek	Boiling Fk. Cr.
355.	TN	Elk River and Shoal Creek	Trib. to Gilliam C.
356.	TN	Elk River and Shoal Creek	*Buchanan Creek
357.	TN	Elk River and Shoal Creek	*Mathias Branch
358.	TN	Elk River and Shoal Creek	*Crawfish Creek
359.	TN	Elk River and Shoal Creek	Elk River
360.	TN	Elk River and Shoal Creek	Little Shoal Cr.
361.	TN	Elk River and Shoal Creek	Hurricane Creek
362.	TN	Elk River and Shoal Creek	Cane Creek
363.	TN	Elk River and Shoal Creek	Wolf Creek
364.	TN	Elk River and Shoal Creek	*Sinking Creek
365.	TN	Elk River and Shoal Creek	Middle Butler Cr.
366.	TN	Elk River and Shoal Creek	Robertson Fk. Cr.
367.	TN	Elk River and Shoal Creek	Loretto Branch
368.	TN	Elk River and Shoal Creek	*Pleasant Run Br.

No.	State	Basin	Description of Segment
369.	TN	Elk River and Shoal Creek	*Shake Rag Branch
370.	TN	Duck River	Big Rock Cr./Snell Br.
371.	TN	Duck River	Rockhouse Cr./Unnamed Trib.
372.	TN	Duck River	*Hinson Hollow Branch
373.	TN	Duck River	Blue Creek
374.	TN	Duck River	Sugar Fork/Sugar Creek
375.	TN	Duck River	Wartrace Cr./Bell Buckle Cr.
376.	TN	Duck River	Big Spring Creek
377.	TN	Duck River	Duck River/Spring Cr.
378.	TN	Duck River	*McCutcheon Creek
379.	TN	Duck River	North Fork Saw Creek
380.	TN	Duck River	*Skinner Hollow Branch
381.	TN	Duck River	Duck River
382.	TN	Duck River	East Piney River
383.	TN	Duck River	East Fork Defeated Creek
384.	TN	Duck River	*Black Creek
385.	TN	French Broad River	West Fork Little Pegion River
386.	TN	French Broad River	Pigeon River
387.	TN	French Broad River	Richland Creek
388.	TN	French Broad River	Nolichucky River/Flat Creek
389.	TN	French Broad River	Sinking Creek (Nolichucky River)
390.	TN	French Broad River	Lit. Limestone Cr.
391.	TN	French Broad River	Sinking Creek (Pigeon River)
392.	TN	French Broad River	Boyd's Creek
393.	TN	French Broad River	*Ball Creek
394.	TN	French Broad River	Little Chucky Cr.

No.	State	Basin	Description of Segment
395.	TN	French Broad River	East Fk. Bird Cr.
396.	TN	French Broad River	Flag Branch
397.	TN	French Broad River	Whitehorn
398.	TN	French Broad River	*Hines Creek
399.	TN	French Broad River	*Cement Mill Creek
400.	TN	French Broad River	Middle Creek
401.	TN	French Broad River	*Wilhite Creek
402	TN	French Broad River	*Ogle Springs Branch
403.	TN	French Broad River	*Bird Creek
404.	TN	French Broad River	*Webb Creek
405.	TN	French Broad River	*Rimmer Creek
406.	TN	French Broad River	Leadvale Creek
407.	TN	French Broad River	Long Creek
408.	TN	French Broad River	*Slate Creek
409.	TN	French Broad River	*Black Creek
410.	TN	French Broad River	Gardner Creek
411.	TN	French Broad River	Mosheim Branch
412.	TN	French Broad River	*Gap Creek
413.	TN	French Broad River	*Johnson Creek
414.	TN	French Broad River	Clear Creek
415.	TN	French Broad River	*Furness Branch
416.	TN	French Broad River	*Sinking Fork Creek
417.	TN	French Broad River	*Holley Creek
418.	TN	Lower Tennessee River	Tennessee River
419.	TN	Lower Tennessee River	*Waconda Bay
420.	TN	Lower Tennessee River	South Chicamauga Cr.

No.	State	Basin	Description of Segment
421.	TN	Lower Tennessee River	Oostanaula Cr.
422.	TN	Lower Tennessee River	S. Mouse Cr.
423.	TN	Lower Tennessee River	Citico Creek
424.	TN	Lower Tennessee River	Chattanooga Cr.
425.	TN	Lower Tennessee River	Wolftever Cr.
426.	TN	Lower Tennessee River	Cane Creek
427.	TN	Lower Tennessee River	Dry Valley Cr.
428.	TN	Lower Tennessee River	Black Creek
429.	TN	Lower Tennessee River	Little North Mouse Cr.
430.	TN	Lower Tennessee River	Stringer's Br.
431.	TN	Lower Tennessee River	Coahulla Cr.
432.	TN	Lower Tennessee River	Candies Creek/Unnamed Trib.
433.	TN	Lower Tennessee River	*Greasy Creek
435.	TN	Lower Tennessee River	*Blue Springs Br.
436.	TN	Lower Tennessee River	Spring Creek
437.	TN	Lower Tennessee River	*Kinser Creek
438.	TN	Lower Tennessee River	Battle Creek
439.	TN	Lower Tennessee River	Big Fiery Gizzard Creek
440.	TN	Lower Tennessee River	Brush Creek
441.	TN	Lower Tennessee River	*Brymer Creek
442.	TN	Lower Tennessee River	Johnson Creek
443.	TN	Lower Tennessee River	Lookout Creek/Unnamed Tributary
444.	TN	Lower Tennessee River	North Chickamauga Creek
445.	TN	Lower Tennessee River	Sale Creek
446.	TN	Lower Tennessee River	Sequatchie River/Unnamed Trib.
447.	TN	Lower Tennessee River	*Tennessee River/Unnamed Trib.

No.	State	Basin	Description of Segment
448.	TN	Upper Tennessee River	Tennessee River
449.	TN	Upper Tennessee River	*Third Creek/and all Tribs.
450.	TN	Upper Tennessee River	Piney River/Town Creek
451.	TN	Upper Tennessee River	Sweetwater Creek
452.	TN	Upper Tennessee River	*Second Creek
453.	TN	Upper Tennessee River	Pistol Creek
454.	TN	Upper Tennessee River	*Turkey Cr./and all Tributaries
455.	TN	Upper Tennessee River	*First Creek
456.	TN	Upper Tennessee River	*Fourth Creek
457.	TN	Upper Tennessee River	Blue Springs Branch
458.	TN	Upper Tennessee River	Bat Creek
459.	TN	Upper Tennessee River	*Polecat Branch
460.	TN	Upper Tennessee River	*Black Creek
461.	TN	Upper Tennessee River	*Caney Creek/Cardiff Creek
462.	TN	Upper Tennessee River	*Nails Creek
463.	TN	Upper Tennessee River	*Hines Creek
464.	TN	Upper Tennessee River	*Decatur Creek
465.	TN	Upper Tennessee River	Richland Creek
466.	TN	Upper Tennessee River	*Stock Creek
467.	TN	Upper Tennessee River	*McCall Branch
468.	TN	Upper Tennessee River	*Crooked Creek
469.	TN	Upper Tennessee River	Town Creek
470.	TN	Upper Tennessee River	*Greenbriar Branch
471.	TN	Upper Tennessee River	Fork Creek
472.	TN	Upper Tennessee River	*Lackey Creek
473.	TN	Upper Tennessee River	Little Richland Cr.

No.	State	Basin	Description of Segment
474.	TN	Upper Tennessee River	Abrams Creek
475.	TN	Upper Tennessee River	Middle Fork Little River
476.	TN	Upper Tennessee River	Little River
477.	TN	Upper Tennessee River	Brown Creek/Duncan Creek
478.	TN	Upper Tennessee River	Baker Creek
479.	TN	Upper Tennessee River	Little River

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*Stream segments that could not be located on map.

TABLE A5

REGION V

Illinois - (IL)

Indiana - (IN)

Michigan - (MI)

Minnesota - (MN)

Ohio - (OH)

Wisconsin - (WI)

REGION V

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	IL	Big Muddy River Basin	Middle Fork headwaters to confluence with Big Muddy
2.	IL	Big Muddy River Basin	Pond Creek headwaters to confluence with Big Muddy
3.	IL	Big Muddy River Basin	Little Muddy headwaters to confluence with Big Muddy
4.	IL	Big Muddy River Basin	Galum-Beaucoup Creeks headwaters to confluence with Big Muddy
5.	IL	Big Muddy River Basin	Crab Orchard Creek headwaters to Crab Orchard Lake
6.	IL	Big Muddy River Basin	Crab Orchard Lake and tributaries (except Crab Orchard Creek)
7.	IL	Big Muddy River Basin	Crab Orchard Creek from Crab Orchard Lake to confluence with Big Muddy
8.	IL	Big Muddy River Basin	Lake Kincaid and tributaries
9.	IL	Big Muddy River Basin	Cedar Creek to confluence with Big Muddy
10.	IL	Big Muddy River Basin	Rend Lake and tributaries
11.	IL	Big Muddy River Basin	Rend Lake discharge to confluence with Little Muddy
12.	IL	Big Muddy River Basin	Below confluence with Little Muddy downstream to Mississippi
13.	IL	Des Plaines River Basin	North Branch Chicago-Skokie Rivers from headwaters to confluence with North Shore Channel
14.	IL	Des Plaines River Basin	North Branch Chicago River from confluence with North Shore Channel to confluence with Chicago River
15.	IL	Des Plaines River Basin	North Shore Channel from Lake to confluence with North Branch Chicago
16.	IL	Des Plaines River Basin	South Branch Chicago River and Chicago Sanitary & Ship Canal from confluence with North Branch downstream to above MSD West-Southwest Plant

No.	State	Basin	Description of Segment
17.	IL	Des Plaines River Basin	Chicago River from Lake to confluence of North and South Branches of Chicago River
18.	IL	Des Plaines River Basin	Chicago Sanitary & Ship Canal from above MSD West-Southwest Plant to confluence with Cal-Sag Channel
19.	IL	Des Plaines River Basin	Salt Creek from headwaters to confluence with Des Plaines
20.	IL	Des Plaines River Basin	East Branch DuPage River from headwaters to confluence with West Branch
21.	IL	Des Plaines River Basin	West Branch DuPage River from headwaters to confluence with East Branch
22.	IL	Des Plaines River Basin	Main Branch DuPage from confluence of East and West Branches to confluence with Des Plaines
23.	IL	Des Plaines River Basin	Lake Michigan shoreline from Illinois-Wisconsin state line to Lake-Cook County line
24.	IL	Des Plaines River Basin	Calumet River, Grant Calumet River, and Cal-Sag Channel to above MSD Calumet Plant
25.	IL	Des Plaines River Basin	Cal-Sag Channel from above MSD Calumet plant downstream to confluence with Chicago Sanitary & Ship Canal
26.	IL	Des Plaines River Basin	Little Calumet from Illinois-Indiana line downstream to confluence with Calumet, Grant Calumet Rivers
27.	IL	Des Plaines River Basin	Chicago Sanitary & Ship Canal from confluence with Cal-Sag Channel downstream to confluence with Des Plaines River
28.	IL	Des Plaines River Basin	Wolf Lake and tributaries (Illinois portion)
29.	IL	Des Plaines River Basin	Wisconsin-Illinois line downstream to Lake-Cook County line (W.Q.S. G-10)
30.	IL	Des Plaines River Basin	Below Lake-Cook line to confluence with Salt Creek

No.	State	Basin	Description of Segment
31.	IL	Des Plaines River Basin	Confluence with Salt Creek to confluence with Chicago Sanitary & Ship Canal
32.	IL	Des Plaines River Basin	Des Plaines from confluence with Chicago Sanitary & Ship Canal to confluence with Kankakee
33.	IL	Fox River Basin	Fox downstream from Illinois-Wisconsin line to above McHenry (Lock & Dam #1)
34.	IL	Fox River Basin	From above McHenry to Algonquin Dam
35.	IL	Fox River Basin	Fox downstream from Algonquin Dam to below Aurora (Oswego)
36.	IL	Fox River Basin	From Oswego to confluence with Illinois
37.	IL	Illinois River Basin	Bureau Creek from head to confluence with Illinois
38.	IL	Illinois River Basin	Vermilion River from head to confluence with Illinois
39.	IL	Illinois River Basin	Mackinaw River from head to confluence with Illinois
40.	IL	Illinois River Basin	Spoon River from head to confluence with Illinois
41.	IL	Illinois River Basin	LaMoine River from head to confluence with Illinois
42.	IL	Illinois River Basin	Macoupin Creek from head to confluence with Illinois
43.	IL	Illinois River Basin	Des Plaines-Kankakee confluence downstream to W.Q.S. D-18 at Seneca
44.	IL	Illinois River Basin	W.Q.S. D-18 at Seneca downstream to W.Q.S. D-16
45.	IL	Illinois River Basin	D-16 downstream to D-9 at Lacon
46.	IL	Illinois River Basin	D-9 downstream to Illinois Rt. 116 bridge
47.	IL	Illinois River Basin	Ill. Rt. 116 bridge downstream to D-03 at Beardstown
48.	IL	Illinois River Basin	D-03 downstream to confluence with Mississippi River

No.	State	Basin	Description of Segment
49.	IL	Kankakee River Basin	Iroquois River from head and Illinois-Indiana stateline (east) to confluence with Kankakee
50.	IL	Kankakee River Basin	Kankakee from Illinois-Indiana line to confluence with Iroquois
51.	IL	Kankakee River Basin	Kankakee downstream of Iroquois confluence to confluence with Des Plaines
52.	IL	Kaskaskia River Basin	Shoal Creek from headwaters to confluence with Kaskaskia
53.	IL	Kaskaskia River Basin	Crooked Creek from headwaters to confluence with Kaskaskia
54.	IL	Kaskaskia River Basin	Silver Creek from headwaters to confluence with Kaskaskia
55.	IL	Kaskaskia River Basin	Sugar Creek from headwaters to confluence with Kaskaskia
56.	IL	Kaskaskia River Basin	Richland Creek from headwaters to confluence with Kaskaskia
57.	IL	Kaskaskia River Basin	Okaw from headwaters to Lake Shelbyville normal pool
58.	IL	Kaskaskia River Basin	Headwaters (Kaskaskia) to Lake Shelbyville normal pool
59.	IL	Kaskaskia River Basin	Lake Shelbyville and tributaries (except Okaw and Kaskaskia Rivers)
60.	IL	Kaskaskia River Basin	Lake Shelbyville discharge to Lake Carlyle normal pool
61.	IL	Kaskaskia River Basin	Lake Carlyle and tributaries (except Kaskaskia)
62.	IL	Kaskaskia River Basin	Lake Carlyle discharge to confluence with Mississippi
63.	IL	Mississippi River Basin North	Apple River from headwaters to confluence with Mississippi
64.	IL	Mississippi River Basin North	Wisconsin-Illinois boundary (extended) downstream to Lock and Dam 13 above Clinton, Iowa
65.	IL	Mississippi River Basin North	Lock and Dam 13 downstream to confluence with Rock River

No.	State	Basin	Description of Segment
66.	IL	Mississippi River Basin North Central	Sny River from headwaters to confluence with Mississippi
67.	IL	Mississippi River Basin North Central	Henderson Creek from headwaters to confluence with Mississippi
68.	IL	Mississippi River Basin North Central	Below confluence with Rock River downstream to Lock and Dam 19 at Hamilton
69.	IL	Mississippi River Basin North Central	Hamilton downstream to confluence with Illinois River
70.	IL	Mississippi River Basin South	Cache River portions draining to Mississippi River
71.	IL	Mississippi River Basin South	Mary's River from headwaters to Mississippi River
72.	IL	Mississippi River Basin South	Mississippi downstream from Kaskaskia to confluence with Ohio
73.	IL	Mississippi River Basin South Central	Wood River from headwaters to confluence with Mississippi
74.	IL	Mississippi River Basin South Central	Cahokia Creek and Cahokia Diversion to confluence with Mississippi
75.	IL	Mississippi River Basin South Central	Cahokia Canal including Old Cahokia Creek and Canteen Creek
76.	IL	Mississippi River Basin South Central	Cahokia #1 Canal System including Prairie DePont Creek, Harding Ditch
77.	IL	Mississippi River Basin South Central	Horseshoe Lake
78.	IL	Mississippi River Basin South Central	Long Lake and tributaries
79.	IL	Mississippi River Basin South Central	From confluence with Illinois downstream to Jefferson Barracks Bridge
80.	IL	Mississippi River Basin South Central	Jefferson Barracks Bridge downstream to confluence with Kaskaskia
81.	IL	Ohio River Basin	North Fork Saline River from headwaters downstream to confluence with main stem Saline
82.	IL	Ohio River Basin	Middle Fork Saline from headwaters downstream to confluence with South Fork

No.	State	Basin	Description of Segment
83.	IL	Ohio River Basin	South Fork Saline from headwaters downstream to confluence with Middle Fork
84.	IL	Ohio River Basin	Saline from confluence of Middle and South Forks downstream to confluence with Ohio
85.	IL	Ohio River Basin	Lusk Creek from headwaters downstream to confluence with Ohio
86.	IL	Ohio River Basin	From approximately 12 miles upstream on Ohio from confluence of Ohio and Saline Rivers downstream to above the confluence with the Saline River
87.	IL	Ohio River Basin	From confluence with Saline downstream to Golconda W.Q.S. A-01
88.	IL	Ohio River Basin	W.Q.S. A-01 to confluence with Mississippi downstream
89.	IL	Rock River Basin	Green River from headwaters to confluence with Rock
90.	IL	Rock River Basin	Kishwaukee River from headwaters to confluence with South Branch Kishwaukee
91.	IL	Rock River Basin	South Branch Kishwaukee from headwaters to confluence with main branch
92.	IL	Rock River Basin	Kishwaukee from confluence of main branch and South Branch to confluence with Rock
93.	IL	Rock River Basin	Kyte River from headwaters to confluence with Rock
94.	IL	Rock River Basin	Pecatonica River from headwaters to confluence with Rock
95.	IL	Rock River Basin	Rock from Illinois-Wisconsin boundary to below confluence with Pecatonica River at the Roscoe Bridge
96.	IL	Rock River Basin	Below Roscoe Bridge downstream to confluence with Kyte River
97.	IL	Rock River Basin	Below Kyte confluence to above Sterling-Rock Falls

No.	State	Basin	Description of Segment
98.	IL	Rock River Basin	Above Sterling-Rock Falls to above confluence with Green River
99.	IL	Rock River Basin	Green River confluence to confluence with Mississippi
100.	IL	Sangamon River Basin	Sugar from head to confluence with Salt Creek
101.	IL	Sangamon River Basin	Salt & Kickapoo from head to confluence with Sugar Creek
102.	IL	Sangamon River Basin	Salt from Sugar confluence to confluence with Sangamon
103.	IL	Sangamon River Basin	South Fork from headwaters to confluence with Sangamon
104.	IL	Sangamon River Basin	Lake Springfield and tributaries
105.	IL	Sangamon River Basin	Lake Sangehris and tributaries
106.	IL	Sangamon River Basin	Headwaters to headwaters of Lake Decatur
107.	IL	Sangamon River Basin	Lake Decatur
108.	IL	Sangamon River Basin	Lake Decatur discharge to above Decatur Sanitary District discharge
109.	IL	Sangamon River Basin	DSD discharge to confluence of South Fork
110.	IL	Sangamon River Basin	South Fork confluence to W.Q.S. E-04
111.	IL	Sangamon River Basin	E-04 to confluence with Salt Creek
112.	IL	Sangamon River Basin	Salt Creek confluence to confluence with Illinois
113.	IL	Wabash River Basin	Salt Fork from headwaters to confluence with Vermilion River
114.	IL	Wabash River Basin	Vermilion River from headwaters to confluence with Salt Fork
115.	IL	Wabash River Basin	Vermilion River from confluence with Salt to Illinois-Indiana state line
116.	IL	Wabash River Basin	Little Vermilion River and Sugar Creek from headwaters to Illinois-Indiana state border

No.	State	Basin	Description of Segment
117.	IL	Wabash River Basin	Embarras from headwaters to W.Q.S. BE-06
118.	IL	Wabash River Basin	BE-06 to above Newton
119.	IL	Wabash River Basin	Embarras from above Newton to confluence with Wabash
120.	IL	Wabash River Basin	Skillet Fork from headwaters to confluence with Little Wabash
121.	IL	Wabash River Basin	Little Wabash from headwaters to confluence with Wabash
122.	IL	Wabash River Basin	Wabash from point where river becomes Illinois-Indiana border to above confluence of Embarras River
123.	IL	Wabash River Basin	Wabash from confluence of Embarras to confluence with Ohio

NOTE: All streams in Illinois are currently classified as water quality limited.

REGION V

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	IN	Lake Michigan River Basin	Calumet River
2.	IN	Lake Michigan River Basin	Deep River
3.	IN	Lake Michigan River Basin	Little Cal[illegible] River (East)
4.	IN	Lake Michigan River Basin	Trail Cre[illegible]
5.	IN	St. Joseph River Basin	Turkey - Baugo Creeks
6.	IN	St. Joseph River Basin	Upper Elkhart River
7.	IN	St. Joseph River Basin	Upper Pigeon Creek
8.	IN	Kankakee River Basin	Kingsbury Creek
9.	IN	Kankakee River Basin	Upper Kankakee River
10.	IN	Kankakee River Basin	Upper Yellow River
11.	IN	Kankakee River Basin	Cedar Creek
12.	IN	Maumee River Basin	Cedar Creek
13.	IN	Maumee River Basin	Maumee River (Main Stem)
14.	IN	Wabash River Basin	Wildcat - S. Fork Wildcat Creek
15.	IN	Wabash River Basin	Middle Mississinewa River
16.	IN	Wabash River Basin	Wabash River at Huntington
17.	IN	Wabash River Basin	Upper Patoka River
18.	IN	Wabash River Basin	Upper Salamonie River
19.	IN	West Fork White River Basin	White Lick Creek
20.	IN	West Fork White River Basin	Eagle Creek
21.	IN	West Fork White River Basin	Cicero Creek
22.	IN	West Fork White River Basin	Duck Creek
23.	IN	West Fork White River Basin	Pipe Creek
24.	IN	West Fork White River Basin	White River - Parker City to Perkinsville

No.	State	Basin	Description of Segment
25.	IN	West Fork White River Basin	White River - Above Parker City
26.	IN	West Fork White River Basin	Fall Creek
27.	IN	West Fork White River Basin	White River - Indianapolis to Martinsville
28.	IN	East Fork White River Basin	Upper Blue River
29.	IN	East Fork White River Basin	Flat Rock River
30.	IN	East Fork White River Basin	Youngs Creek
31.	IN	East Fork White River Basin	E. Fork Whiate River - Clifty Creek
32.	IN	East Fork White River Basin	Upper Salt Creek
33.	IN	East Fork White River Basin	Vernon Fork Muscatatuck
34.	IN	East Fork White River Basin	Lost River
35.	IN	East Fork White River Basin	Sand Creek
36.	IN	Whitewater River Basin	E. Fork Whitewater River
37.	IN	Ohio River Basin	Cypress Creek
38.	IN	Ohio River Basin	Upper Blue River
39.	IN	Ohio River Basin	Silver Creek
40.	IN	Ohio River Basin	Hogan - Laughery Creeks

REGION V

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	MI	Lake Erie River Basin	S. Branch River Raisin from Adrian to conf with main branch
2.	MI	Lower Lake Huron River Basin	Flint River from Fling to Genessee - Saginaw County Line
3.	MI	Lower Lake Huron River Basin	Shiawassee River from Ludor to Genessee - Saginaw County Line
4.	MI	Lower Lake Huron River Basin	Shiawassee River from Owosee to 10 miles downstream
5.	MI	Lower Lake Huron River Basin	Tittabawassee River from Midland to Midland-Bay County Line
6.	MI	Lake Michigan River Basin	Grand River from Jackson to Jackson - Ingham County Line
7.	MI	Lake Michigan River Basin	Grand River from Lansing to Grand Ledge
8.	MI	Lake Michigan River Basin	Red Cedar River from E. Lansing to conf with Grand River
9.	MI	Lake Michigan River Basin	Sycamore Creek from Mason to conf with Red Cedar River
10.	MI	Lake Michigan River Basin	Battle Creek from Charlotte to 10 miles downstream
11.	MI	Lake Michigan River Basin	Kalamazoo River from Comstock to K-Allegar City Line Inc. Portage Creek
12.	MI	Lake Michigan River Basin	St. Joseph River from Hillsdale to Jonesville
13.	MI	Lake Michigan River Basin	Saline River from Saline to 10 miles downstream
14.	MI	Lake Michigan River Basin	Huron River from Dexter thru Ford Lake
15.	MI	Lake Michigan River Basin	Clinton River from Portier to mouth
16.	MI	River Run River Basin	All waters

REGION V

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	MN	Red River of the North River Basin	Mustinka River and Lake Traverse - Source to Lake Traverse outlet
2.	MN	Red River of the North River Basin	Red River of the North - Boise de Sioux River to Buffalo River
3.	MN	Red River of the North River Basin	Ottertail River - Source to mouth
4.	MN	Red River of the North River Basin	Roseau River - Source to Canadian border
5.	MN	Upper Mississippi River Basin (upper portion)	Swan River - source to mouth
6.	MN	Upper Mississippi River Basin (upper portion)	Crow Wing River - source to mouth
7.	MN	Upper Mississippi River Basin (upper portion)	Sauk River - source to mouth
8.	MN	Upper Mississippi River Basin (upper portion)	Crow River - source to mouth
9.	MN	Upper Mississippi River Basin (lower portion)	Cannon River - source to mouth
10.	MN	Upper Mississippi River Basin (lower portion)	Zumbro River - source to mouth
11.	MN	Upper Mississippi River Basin (lower portion)	Whitewater River - source to mouth
12.	MN	Upper Mississippi River Basin (lower portion)	Root River - source to mouth
13.	MN	Upper Mississippi River Basin (lower portion)	Upper Iowa River - source to IW Bord & IW Border to Iowa Border
14.	MN	Minnesota River Basin	Minnesota River - outlet of Big Stone Lake to Marsh Lake
15.	MN	Minnesota River Basin	Blue Earth River - Iowa border to mouth
16.	MN	Minnesota River Basin	Chippewa River - source to mouth
17.	MN	Minnesota River Basin	Redwood River - source to mouth

No.	State	Basin	Description of Segment
18.	MN	Minnesota River Basin	Cottonwood River - source to mouth
19.	MN	Minnesota River Basin	Lesueur River - source to mouth
20.	MN	St. Croix River Basin	Kettle River - source to mouth
21.	MN	Cedar River Basin	Cedar River - source to Iowa Border
22.	MN	Cedar River Basin	Shell Rock River - source to Iowa Border
23.	MN	Cedar River Basin	Little Cedar River - source to Iowa Border
24.	MN	Cedar River Basin	Other Interstate Tribs to Cedar River
25.	MN	Des Moines River Basin	Des Moines River - Lake Yankton outlet to Iowa Border
26.	MN	Des Moines River Basin	East Fork Des Moines R - source to Iowa Border Inc. Okamanpeedan Lake
27.	MN	Des Moines River Basin	Soldier Creek - source to Iowa Border
28.	MN	Big Sioux River Basin	Tribs to Big Sioux River
29.	MN	Big Sioux River Basin	Tribs to Missouri River
30.	MN	Lake Superior River Basin	St. Louis River - source to mouth Inc. St. Louis Bay and Superior Bay
31.	MN	Lake Superior River Basin	Nemadji River - source to Wisc. Border
32.	MN	Twin Cities Metro Area	Mississippi River - Rum River to Lock and Dam 2 near Hastings
33.	MN	Twin Cities Metro Area	Minnesota River - Carver Rapids to mouth
34.	MN	Twin Cities Metro Area	Vermillion River - source to Highway 61 Bridge near Hastings

REGION V

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	OH	Cuyahoga River	East Branch of the Cuyahoga River fr its source to the E.Branch Reservoir
2.	OH	Cuyahoga River	West Branch of the Cuyahoga River fr its source to the Cuyahoga River
3.	OH	Cuyahoga River	Cuyahoga River fr Middlefield to Lake Rockwell
4.	OH	Cuyahoga River	Snow Lake Outlet & the streams tributary to Snow Lake
5.	OH	Cuyahoga River	Bridge Creek fr the sources of its tributaries to Bridge Creek Reservoir
6.	OH	Cuyahoga River	Harper Ditch for its entire length
7.	OH	Cuyahoga River	Eckert Ditch for its entire length
8.	OH	Cuyahoga River	Breakneck Creek & its tributaries
9.	OH	Cuyahoga River	Lake Rockwell
10.	OH	Cuyahoga River	Little Cuyahoga River & its tributaries fr Lakemore & Fritch Lake to Cuyahoga River
11.	OH	Cuyahoga River	Ohio Canal fr Summit Lake to Little Cuyahoga River
12.	OH	Cuyahoga River	Yellow Creek & its tributaries along their entire lengths
13.	OH	Cuyahoga River	Furnace Run & its tributaries along their entire lengths
14.	OH	Cuyahoga River	Mud Brook fr Hudson to Cuyahoga River
15.	OH	Cuyahoga River	Powers Brook fr its source to Mud Brook
16.	OH	Cuyahoga River	Brandywine Creek fr Hudson to Cuyahoga River
17.	OH	Cuyahoga River	Tinkers Creek & its tributaties along their entire lengths
18.	OH	Cuyahoga River	Chippewa Creek fr Broadview Heights to the Cuyahoga River
19.	OH	Cuyahoga River	Mill Creek & its tributaries along their entire lengths

No.	State	Basin	Description of Segment
20.	OH	Cuyahoga River	Morgan Run along its entire length
21.	OH	Cuyahoga River	Unnamed creek arising between Parma & Seven Hills & flowing north then west to join Big Creek in Brooklyn for its entire length
22.	OH	Cuyahoga River	Stickney Creek for its entire length
23.	OH	Cuyahoga River	East Fork of Big Creek for its entire length
24.	OH	Cuyahoga River	Big Creek for its entire length
25.	OH	Cuyahoga River	West Fork of Big Creek
26.	OH	Cuyahoga River	*Kingsbury Run for its entire length
27.	OH	Cuyahoga River	Masor Creek for its entire length
28.	OH	Maumee River	Wirth Ditch, Kopp Creek, & St. Mary's River from New Bremen to Mendon
29.	OH	Maumee River	Pusheta Creek & the Auglaise River fr Wapakoneta to Ft. Jennings
30.	OH	Maumee River	Little Ottawa River & the Ottawa River fr Cridersville to Kalida
31.	OH	Maumee River	Sugar Creek fr Lima to the Ottawa River
32.	OH	Maumee River	Jennings Creek & the Auglaise River fr Delphos to Rt. 224
33.	OH	Maumee River	Town Creek fr Van Wert to intersection of Maddox Creek
34.	OH	Maumee River	Hog Creek fr Ada to Ottawa River
35.	OH	Maumee River	Blanchard River fr Dunkirk to intersection of Ottawa Creek
36.	OH	Maumee River	Eagle Creek fr Arlington to Blanchard River
37.	OH	Maumee River	Little Yellow Creek & Yellow Creek fr Leipsic to Beaver Creek
38.	OH	Maumee River	Brush Creek fr Paulding to the Auglaise River
39.	OH	Maumee River	Powell Creek fr Continental to the intersection of North Powell Creek
40.	OH	Maumee River	Flatrock Creek fr Paulding to the Auglaise River

No.	State	Basin	Description of Segment
41.	OH	Maumee River	Marie De Larme Creek fr Rt. 49 to Maumee River
42.	OH	Maumee River	Lick Creek fr Bryan to Ney
43.	OH	Maumee River	Brush Creek fr Archbald to the Tiffin River
44.	OH	Maumee River	Maumee River fr Napoleon to intersection of Dry Creek
45.	OH	Maumee River	An unnamed ditch fr Wauseon to Maumee River
46.	OH	Maumee River	Dry Creek fr Delta to Maumee River
47.	OH	Maumee River	An unnamed stream fr Weston to Maumee River
48.	OH	Maumee River	Swan Creek fr Swanton to Whitehouse
49.	OH	Maumee River	Ottawa River fr Sylvania to Lake Erie
50.	OH	Maumee River	Shipping channel of Maumee River at Toledo
51.	OH	Great Miami River	Indian Lake around the Lakeshore
52.	OH	Great Miami River	Bokengehalas Creek fr Bellefontaine to Miami River
53.	OH	Great Miami River	Abandoned Miami & Erie Canal fr Minster to Loramie Creek
54.	OH	Great Miami River	Dismal Creek fr Union City to Greenville Creek's intersection & fr Greenville to Rt. 721
55.	OH	Great Miami River	Stillwater River fr Versailles to Great Miami River
56.	OH	Great Miami River	Mad River fr Urbana to Springfield
57.	OH	Great Miami River	Buck Creek & the Mad River fr the source of Buck Creek to the intersection of Mad River & Rt. 235 below Springfield
58.	OH	Great Miami River	Seven Mile Creek fr Eaton to Four Mile Creek
59.	OH	Great Miami River	Four Mile Creek fr Oxford to the intersection of Seven Mile Creek
60.	OH	Great Miami River	Twin Creek fr Gratis to the Miami River
61.	OH	Great Miami River	Great Miami River fr Troy to the Ohio River

No.	State	Basin	Description of Segment
62.	OH	Scioto River	Olentangy River fr Galion to the mouth of Grave Creek
63.	OH	Scioto River	Whetsone Creek fr Mt. Gilead to Cardington
64.	OH	Scioto River	Little Scioto River fr Marion to Green Camp
65.	OH	Scioto River	Scioto River fr Kenton to Panther Creek
66.	OH	Scioto River	Bokes Creek fr its source to Summersville
67.	OH	Scioto River	Mill Creek fr Marysville to the Delaware County Line
68.	OH	Scioto River	Darby Creek fr the mouth of Flat Branch Creek to Milford Center
69.	OH	Scioto River	Darby Creek fr Milford Center to Plain City
70.	OH	Scioto River	Little Darby Creek fr Mechanicsburg to the mouth of Treacle Creek
71.	OH	Scioto River	Darby Creek fr Plain City to West Jefferson
72.	OH	Scioto River	Oak Run fr London to Deer Creek
73.	OH	Scioto River	Scioto River fr two miles downstream of the mouth of Mill Creek to Columbus
74.	OH	Scioto River	Olentangy River fr Delaware to Columbus
75.	OH	Scioto River	Alum Creek fr Kilborne to Big Walnut Creek
76.	OH	Scioto River	Big Walnut Creek fr Sunbury to the Scioto River
77.	OH	Scioto River	Blacklick Creek fr its source to Big Walnut Creek
78.	OH	Scioto River	Walnut Creek fr Baltimore to Ashville
79.	OH	Scioto River	Wilson Creek & the West Branch of Rattlesnake Cree
80.	OH	Scioto River	Rocky Fork Creek fr Hillsboro to Rocky Fork Lake
81.	OH	Scioto River	Paint Creek fr Washington Court House to the intersection of Paint Creek & Rocky Fork Creek
82.	OH	Scioto River	Beaver Creek fr Jackson to the intersection of Pecks Creek
83.	OH	Scioto River	Scioto River fr Columbus to the intersection of Salt Creek

No.	State	Basin	Description of Segment
84.	OH	Little Miami River	Lisbon Fork & the Little Miami River fr South Charleston to the intersection of Caesar Creek
85.	OH	Little Miami River	Massie Creek fr Cedarville to the Little Miami River
86.	OH	Little Miami River	Yellow Springs Creek fr Yellow Springs to the Little Miami River
87.	OH	Little Miami River	Little Beaver Creek & Beaver Creek fr Dayton to the Little Miami River
88.	OH	Little Miami River	Glady Run fr Xenia to the Little Miami River
89.	OH	Little Miami River	Shawnee Run fr Xenia to the Little Miami River
90.	OH	Little Miami River	South Branch of Caesar Creek to Caeser Creek fr Jamestown to the Caesar Creek Reservoir
91.	OH	Little Miami River	Caesar Creek fr the Caesar Creek Reservoir to the Little Miami River
92.	OH	Little Miami River	Little Creek fr Wilmington to the Todd Fork
93.	OH	Little Miami River	Little East Fork & Todd Fork fr Martinsville to the Little Miami River
94.	OH	Little Miami River	Second Creek fr Blanchester to the Todd Fork
95.	OH	Little Miami River	Turtle Creek fr Lebanon to the Little Miami River
96.	OH	Little Miami River	Muddy Creek fr Mason to the Little Miami River
97.	OH	Little Miami River	Little Miami River fr Loveland to Milford
98.	OH	Little Miami River	Stonelick Creek(excluding Stonelick Lake) fr Blanchester to East Fork to the Little Miami River
99.	OH	Little Miami River	West Fork of the East Fort of the Little Miami River fr its source to the Little Miami River
100.	OH	Little Miami River	East Fork of the Little Miami River fr New Vienna to East Fork Lake
101.	OH	Little Miami River	Poplar Creek & Cloverlick Creek fr Bethel to East Fork Lake
102.	OH	Little Miami River	Little Miami River fr Mariemont to the Ohio River

No.	State	Basin	Description of Segment
103.	OH	Southwest Ohio River	Maysville to the Markland Lock and Dam
104.	OH	Little Beaver Creek	Salem to the Main stem of Little Beaver Creek
105.	OH	Ashtabula River	Ashtabula River fr the confluence of its East and West Branches to Lake Erie
106.	OH	Ashtabula River	East Branch of the Ashtabula River fr its source to the Ashtabula River
107.	OH	Ashtabula River	West Branch of the Ashtabula River fr its source to the Ashtabula River
108.	OH	Ashtabula River	Ashtabula Creek fr its source to the Ashtabula River
109.	OH	Ashtabula River	Turkey Creek fr the Pennsylvania State Line to Lake Erie
110.	OH	Mahoning River	Leavittsburg to the Pennsylvania State Line
111.	OH	Mahoning River	An unnamed creek fr Andover to the Pymatuning Reservoir
112.	OH	Mahoning River	Little Yankee Run fr Hubbard to Yankee Run Creek
113.	OH	Mahoning River	Dry Run fr Campbell to the Mahoning River
114.	OH	Mahoning River	Crab Creek fr Corners to the Mahoning River
115.	OH	Mahoning River	Little Squaw Creek for its whole length of municipal stormwater & combined sewer discharges
116.	OH	Mahoning River	Squaw Creek fr Lake Girard to the Mahoning River
117.	OH	Mahoning River	Mosquito Creek fr Mosquito Creek Reservoir to the Mahoning River
118.	OH	Mahoning River	*Red Run for its whole length
119.	OH	Mahoning River	*Infirmary Run for its whole length
120.	OH	Mahoning River	*Chocolate Run for its whole length
121.	OH	Mahoning River	Yellow Creek fr Pine Lake to the Mahoning River
122.	OH	Mahoning River	Mill Creek fr Columbiana to the Mahoning River

No.	State	Basin	Description of Segment
123.	OH	Mahoning River	Unnamed ditch fr Cornfield to Meander Creek
124.	OH	Mahoning River	Unnamed stream fr Sebring to the Mahoning River and the Mahoning River fr that creek during low flow periods originates fr the municipal point & non-point discharges of Alliance
125.	OH	Mahoning River	Beech Creek fr Alliance to Berlin Reservoir
126.	OH	Mahoning River	Little Beech Creek for its whole length
127.	OH	Mahoning River	Deer Creek for its whole length
128.	OH	Mahoning River	Silver Creek fr Hiram to two miles downstream fr Garrettsville
129.	OH	Muskingum River	East Branch of Nimishillen Creek fr Louisville Nimishillen Creek
130.	OH	Muskingum River	West Branch of Nimishillen Creek fr North Canton to Nimishillen Creek
131.	OH	Muskingum River	Nimishillen Creek fr Canton to Mineral City
132.	OH	Muskingum River	Tuscarawas River fr Mineral City to New Philadelphia
133.	OH	Muskingum River	Sandy Creek fr the Pennsylvania State Line to Waynesbury
134.	OH	Muskingum River	Indian Fork Creek fr Carrollton to Atwood Reservoir
135.	OH	Muskingum River	Conotton Creek fr Jewett to Bowerston
136.	OH	Muskingum River	Stillwater Creek fr Goshen to Roanoke
137.	OH	Muskingum River	South Fork of Walnut Creek fr its source to the Beach City Reservoir
138.	OH	Muskingum River	Sugar Creek fr Brewster to the outfall of the Beach City Reservoir
139.	OH	Muskingum River	Newark Creek & Sugar Creek fr Smithville to Brewster
140.	OH	Muskingum River	Little Chippewa Creek fr Orrville to Chippewa Creek
141.	OH	Muskingum River	Chippewa Creek fr Mill Creek to Seville
142.	OH	Muskingum River	Mill Creek fr Wadsworth to Chippewa Creek
143.	OH	Muskingum River	Wolf Creek fr the Medina-Summit County Line to Barberton

No.	State	Basin	Description of Segment
144.	OH	Muskingum River	Pigeon Creek fr Schocalog Run to Barberton
145.	OH	Muskingum River	Ohio Canal fr Barberton to the Wheeling-East Lake Railroad bridge
146.	OH	Muskingum River	Killbuck Creek fr Creston to the function of Little Apple Creek
147.	OH	Muskingum River	Killbuck Creek fr Wooster to the mouth of Shreve Creek
148.	OH	Muskingum River	Shreve Creek fr Shreve to Killbuck Creek
149.	OH	Muskingum River	Jerome Fork Creek fr Jeromesville to Ashland
150.	OH	Muskingum River	Black Fork of the Mohican River fr Shelby to the mouth of Brubaker Creek
151.	OH	Muskingum River	Rocky Fork fr North Mansfield to Lucas
152.	OH	Muskingum River	Charles Mill Reservoir & the Black Fork of the Mohican River fr the reservoir to the Pennsylvania Railroad bridge
153.	OH	Muskingum River	Clear Fork of the Mohican River fr the Clear Fork Reservoir to the Pleasant Hill Reservoir
154.	OH	Muskingum River	Huff Run fr Lindentree to Conotton Creek
155.	OH	Muskingum River	Willis Creek fr the Cambridge State Hospital to South Cambridge
156.	OH	Muskingum River	Muskingum River fr Philo to the mouth of Big Bottom Run
157.	OH	Muskingum River	Muskingum River fr Beverly to Upper Lowell
158.	OH	Muskingum River	North Fork of the Licking River fr Centerburg to Newark
159.	OH	Muskingum River	Licking River fr Newark to Dillon Reservoir
160.	OH	Muskingum River	Raccon Creek fr Johnstown to Alexandria
161.	OH	Muskingum River	South Fork of the Licking River fr Pataskala to Buckeye Lake
162.	OH	Muskingum River	South Fork of the Licking River fr a point adjacent to the Licking-Fairfield County lines to Newark

No.	State	Basin	Description of Segment
163.	OH	Ohio River	Ohio River fr Steubenville to the Pike Island Dock and Dam
164.	OH	Ohio River	Ohio River fr Huntington to the Greenup Lock & Dam
165.	OH	Hocking River	Rush Creek fr New Lexington to Center Creek's mouth
166.	OH	Hocking River	Somerset Creek fr Somerset to Rush Creek
167.	OH	Hocking River	Hocking River fr Lancaster to Rockbridge
168.	OH	Hocking River	Clear Creek at Amanda
169.	OH	Hocking River	Margaret Creek for its entire length
170.	OH	Portage River	Amlosch Ditch for its entire length
171.	OH	Portage River	Cedar Creek fr the Lucas County Line to Walbridge
172.	OH	Portage River	Portage River fr Pemberville to its mouth on Lake Erie
173.	OH	Portage River	Toussaint River fr Packer Creek to its mouth in Lake Erie
174.	OH	Portage River	Wolf Creek from Gibsonbury to the Portage River
175.	OH	Portage River	Poe Ditch & the North Branch of the Portage River fr Bowling Green to the Portage River
176.	OH	Portage River	East Branch of the Portage River fr Bloomdale to the Middle Branch of the Portage River
177.	OH	Portage River	South Branch of the Portage River fr Arcadia to the Middle Branch of the Portage River
178.	OH	Portage River	Rocky Fork fr Van Buren to its mouth
179.	OH	Portage River	Radar Creek fr McComb to its mouth in the Middle Branch of the Portage River
180.	OH	Portage River	Middle Branch of the Portage River for its entire length
181.	OH	Portage River	Sugar Creek fr Gibsonburg to the Portage River
182.	OH	Sandusky River	Sandusky River fr Tiffin to Muddy Creek Bay
183.	OH	Sandusky River	E. Branch of Wolf Creek for its entire length

No.	State	Basin	Description of Segment
184.	OH	Sandusky River	Rock Creek fr Republic to Tiffin
185.	OH	Sandusky River	Raccon Creek fr Clyde to Lake Erie
186.	OH	Sandusky River	Pickerel Creek for its entire length
187.	OH	Sandusky River	Mills Creek for its entire length
188.	OH	Sandusky River	Pipe Creek for its entire length
189.	OH	Sandusky River	*Sawmill Creek for its entire length
190.	OH	Sandusky River	Honey Creek fr a point adjacent to New Washington to Melmore
191.	OH	Sandusky River	Broken Sword Creek fr the Crawford County Line to the Sandusky River
192.	OH	Sandusky River	Spring Run Creek fr Careu to the Sandusky River
193.	OH	Sandusky River	Sandusky River fr Crestline to the Crawford County line
194.	OH	Sandusky River	Wolf Creek fr Fostoria to the Sandusky River
195.	OH	Sandusky River	Sandusky River fr Broken Sword Creek to Spring Run Creek
196.	OH	Vermillion River	Vermillion River fr the Ashland County line to Lake Erie
197.	OH	Vermillion River	East Branch of the Vermillion River fr New London to Lake Erie
198.	OH	Huron River	West Branch of the Huron River fr Willard to the Huron River
199.	OH	Huron River	Frink Run fr a point adjacent to Hunts Corner to the West Branch of the Huron River
200.	OH	Huron River	Megginson Creek for its entire length
201.	OH	Huron River	East Branch of the Huron River fr Johnson Road above Norwalk to its mouth
202.	OH	Huron River	East Branch of the Huron River fr North Fairfield to Peru

No.	State	Basin	Description of Segment
203.	OH	Huron River	Huron River fr the juncture of the East and West Branches of the Huron River
204.	OH	Black River	Beaver Creek fr Oberlin to Lake Erie
204.	OH	Black River	French Creek fr North Ridgefield to its mouth
205.	OH	Black River	Ridgeway Ditch for its entire length
206.	OH	Black River	Black River fr Elyria to Lorain
207.	OH	Black River	East Branch of the Black River fr Lodi to Elyria
208.	OH	Black River	Plum Creek fr Oberlin to the Black River
209.	OH	Black River	Wellington Creek fr Wellington to the East Branch of the Black River
210.	OH	Black River	West Branch of Black Creek fr Plum Creek to Elyria
211.	OH	Rocky River	Rocky River fr the confluence of the East and West Branches of the Rocky River to Lake Erie
212.	OH	Rocky River	Plum Creek fr Route 303 to Rocky River
213.	OH	Rocky River	Abram Creek fr the Berea Freeway to Rocky River
214.	OH	Rocky River	East Branch of the Rocky River fr its source to the Rocky River
215.	OH	Rocky River	Baldwin Creek fr Middleburg to the East Branch of the Rocky River
216.	OH	Rocky River	Baker Creek for its entire length
217.	OH	Rocky River	An unnamed creek for a point north of Brunswick on the Strongsville Township line West to the West Branch of the Rocky River
218.	OH	Rocky River	Cossett Creek for its entire length
219.	OH	Rocky River	West Branch of the Rocky River fr North Branch of the Rocky River
220.	OH	Rocky River	Mallet Creek fr its source to the West Branch of the Rocky River
221.	OH	Rocky River	North Branch of the Rocky River & Plum Creek for their entire lengths
222.	OH	Chagrin River	Aurora Branch of the Chagrin River fr Aurora to the Chagrin River

*Stream segments that could not be located on map.

REGION V

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	WI	Fox-Wolf River Basin	Fox (Green Bay) River - From the upper dam at Appleton to Green Bay
2.	WI	Fox-Wolf River Basin	Green Bay - Waters southeasterly from the navigation channel and southeasterly from the north line of Brown County
3.	WI	Lake Michigan S.W. Shore Basin	Honey Creek - In Milwaukee County
4.	WI	Lake Michigan S.W. Shore Basin	*Indian Creek - In Milwaukee County
5.	WI	Lake Michigan S.W. Shore Basin	Kinnickinnic River - In Milwaukee County
6.	WI	Lake Michigan S.W. Shore Basin	*Lincoln Creek - In Milwaukee County
7.	WI	Lake Michigan S.W. Shore Basin	Menomonee River - In Milwaukee County below the confluence with Honey Creek
8.	WI	Lake Michigan S.W. Shore Basin	Milwaukee River - In Milwaukee County downstream from the North Avenue Dam
9.	WI	Lake Michigan S.W. Shore Basin	South and Menominee Canal and Burnham Canal - In Milwaukee County
10.	WI	Lake Michigan S.W. Shore Basin	Underwood Creek - In Milwaukee and Waukesha Counties below Juneau Boulevard
11.	WI	Lake Michigan S.W. Shore Basin	*Barnes Creek - In Kenosha County
12.	WI	Lake Michigan S.W. Shore Basin	Pike Creek - In Kenosha County
13.	WI	Lake Michigan S.W. Shore Basin	Pike River - In Racine County
14.	WI	Lake Michigan S.W. Shore Basin	Fox (Illinois) River - From the confluence of Sussex Creek to the confluence of Genesee Creek
15.	WI	Lake Michigan S.W. Shore Basin	Sussex Creek - In Waukesha County
16.	WI	Wisconsin River Basin	Mill Creek - Wood County Highway "E" below Marshfield to the Wood-Portage County line
17.	WI	Wisconsin River Basin	*Scotch Creek - Above Marathon County Highway "S"

No.	State	Basin	Description of Segment
18.	WI	Wisconsin River Basin	Wisconsin River - Rhinelander Dam to Crescent Creek
19.	WI	Wisconsin River Basin	Wisconsin River - Rothschild Dam to State Highway 34
20.	WI	Wisconsin River Basin	Wisconsin River - Nekoosa to State Highway 82
21.	WI	Rock River Basin	Badfish Creek - From the east limits of the Village of Oregon to the Dane-Rock County line
22.	WI	Rock River Basin	W. Branch Sugar River - From the south city limits of Mt. Horeb to the east limits of the Town of Blue Mounds in Dane County
23.	WI	Rock River Basin	Brewery Creek - From State Highway 23 in the City of Mineral Point to the junction with Mineral Point Branch
24.	WI	Rock River Basin	Honey Creek - The sector above the Clarno-Cadiz town line
25.	WI	Green Bay - Western Shore River Basin	The Oconto River Basin - From Oconto Falls to County Highway "J"
26.	WI	Chippewa River Basin	Flambeau River - From the upper dam at Park Falls downstream to the Crowley Dam

[*] Stream segments that could not be located on map.

TABLE A6

REGION VI

Arkansas - (AR)

Louisiana - (LA)

New Mexico - (NM)

Oklahoma - (OK)

Texas - (TX)

REGION VI

Water Quality Limited Stream Segment

No.	State	Basin	Description of Segment
1.	AR	Red River	Bayou Dorcheat: Badcaw Creek
2.	AR	Red River	Red River: Sulphur River
3.	AR	Red River	Saline River: Cossatot River: Little River
4.	AR	Red River	Mountain Fork
5.	AR	Ouachita River	Boeuf Bayou-Bayou Macon
6.	AR	Ouachita River	Bayou Bartholomew
7.	AR	Ouachita River	Saline River
8.	AR	Ouachita River	Ouachita River above Conf. of L. Missouri to Arkansas-Louisiana State Line
9.	AR	Ouachita River	Cornie Bayou-Bayou of L'Outre
10.	AR	Ouachita River	Ouachita River to Conf. with Little Missouri River
11.	AR	Arkansas River	Mississippi River--Mouth of White to Arkansas-Louisiana Line
12.	AR	Arkansas River	Bayou Meto to Conf. w/Arkansas River-inc Arkansas River to State Line from Conf. w/Bayou Meto
13.	AR	Arkansas River	Arkansas River from Lock & Dam #7 to Conf. w/Bayou Meto
14.	AR	Arkansas River	Fourche Lafave River
15.	AR	Arkansas River	Arkansas River above Dardanelle Reservoir to below Lock & Dam #9
16.	AR	Arkansas River	Petit Jean River
17.	AR	Arkansas River	Arkansas River - State Line to Dardanelle Reservoir
18.	AR	Arkansas River	Illinois River (Grand Neosho Sub-Basin)
20.	AR	Arkansas River	Arkansas River below Lock & Dam #9 to Lock & Dam #7, Cadron Creek
21.	AR	White River	White River Clarenoon to Mouth

No.	State	Basin	Description of Segment
22.	AR	White River	Bayou Deview
23.	AR	White River	White River from Conf. w/Black River to C w/Little Red River - Cache River
24.	AR	White River	White River from Conf. w/Little Red to Clarenoon - Little Red River
25.	AR	White River	White River from Guion to Conf. w/Black: Black River: Little Red River
26.	AR	White River	Spring River
27.	AR	White River	White River from Conf. w/Buffalo to Guion
28.	AR	White River	Buffalo River
29.	AR	White River	Table Rock Reservoir: Bull Shoals Lake: White River to Conf. w/Buffalo River
30.	AR	White River	Upper White River: Beaver Reservoir: King River
31.	AR	St. Francis River	St. Francis River below Conf. w/Tyronza t Mouth Fifteen Mile Bayou
32.	AR	St. Francis River	L'Anguille River
33.	AR	St. Francis River	St. Francis River at Arkansas-Missouri Li to Conf. w/Tyronza River
34.	AR	St. Francis River	Tyronza River
35.	AR	Mississippi River	Mississippi River - Mouth of White to Arkansas-Louisiana Line
36.	AR	Mississippi River	Mississippi River - Helena to Conf. with White River
37.	AR	Mississippi River	Mississippi River - Arkansas-Missouri Lin to Conf. w/St. Francis River

NOTE: All streams in Arkansas are currently classified as water quality limited.

REGION VI

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	LA	Calcasieu	Calcasieu River - Oakdale to Calcasieu River Salt Water Barrier (above Lake Charles)
2.	LA	Calcasieu	Mill Creek - Headwaters (near Elizabeth) to Calcasieu River (Scenic River)
3.	LA	Calcasieu	Whiskey Chitto Creek - Headwaters to Calcasieu River (Scenic River)
4.	LA	Calsaieu	Bundicks Creek - Headwaters to Whiskey Chitto Creek (including Bundicks Lake)
5.	LA	Calsaieu	Calcasieu River - Salt Water Barrier to Moss Lake (Tidal)
6.	LA	Calsaieu	West Fork, Calcasieu River - Houston to Calcasieu River
7.	LA	Calcasieu	Bayou D'Inde - Headwaters to Calcasieu River (Tidal)
8.	LA	Calcasieu	Calcasieu River - Moss Lake to the Gulf of Mexico (Tidal)
9.	LA	Mermentau-Vermilion-Teche	Vermilion River - I-10 - Intracoastal Water
10.	LA	Mermentau-Vermilion-Teche	Bayou Teche - Keystone Locks and Dam to Charenton Canal
11.	LA	Mermentau-Vermilion-Teche	Bayou Teche - Charenton Canal to Wax Lake
12.	LA	Mississippi	Mississippi River: From Old River Structure to Huey P. Long Bridge above New Orleans
13.	LA	Mississippi	Mississippi River: From Huey P. Long Bridge to Head of Passes
14.	LA	Ouachita	Ouachita River - Arkansas State Line to Columbia (Mile 117)
15.	LA	Ouachita	Bayou L'Outre - Arkansas State Line to Ouachita River (Scenic River)
16.	LA	Pontchartrain	Lake Pontchartrain - West of Highway 11 Bridge (Tidal)

No.	State	Basin	Description of Segment
17.	LA	Pontchartrain	Lake Pontchartrain - East of Highway 11 Bridge (Tidal)
18.	LA	Pontchartrain	Industrial Canal - Mississippi River to Lake Pontchartrain (Tidal)
19.	LA	Pontchartrain	Intracoastal Waterway - Mississippi River to Mississippi State Line (Tidal)
20.	LA	Pontchartrain	Mississippi River Gulf OUtlet - Intracoastal Canal to Breton Sound (Tidal)
21.	LA	Sabine	Bayou Castor
22.	LA	Sabine	Sabine River - Toledo Bend Dam to Sabine River Authority of Texas Pump Station (Approximately Mile 30.5)
23.	LA	Sabine	Anacoco Creek - Anacoco Lake Dam to Sabine River Confluence
24.	LA	Terrebonne	Bayou Petit Caillou - Below Houma to Terrebonne Bay (Tidal)

REGION VI

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	NM	Rio Grande	The main stem of the Rio Grande from the International Boundary and Water Commission sampling station above American Dam at El Paso Upstream to one mile below Percha Dam.
2.	NM	Rio Grande	The main stem of the Rio Grande from the headwaters of Elephant Butte upstream to the Angostura Diversion Works, including any flow below the perential reaches of the Rio Puerco and Jemez River which enters the main stem of the Rio Grande.
3.	NM	Rio Grande	The main stem of the Rio Grande from the headwaters of Cochiti Reservoir upstream to Taos Junction Bridge including the main stem of Embudo Creek from its confluence with Rio Grande upstream to Dixon and the Santa Fe River upstream to Siler Road.
4.	NM	Pecos River	The main stem of the Pecos River from Malaga upstream to Lower Tansil Dam, including Black River.
5.	NM	San Juan River	The main stem of the San Juan River from the point where the San Juan leaves New Mexico and enters Colorado upstream to New Mexico Highway 17 at Blanco, and any flow which enters the San Juan River from the Mancos and Chaco Rivers.

REGION VI

Water Quality Limited Stream Segment

No.	State	Basin	Description of Segment
1.	OK	Lower Northern Canadian	Lower Northern Canadian
2.	OK	Upper Verdigris	Upper Verdigris and Tributaries
3.	OK	Grand-Neosho	Grand-Neosho
4.	OK	Lower Verdigris	Lower Verdigris
5.	OK	Arkansas	Arkansas above Kaw Dam
6.	OK	Cimarron	Cimarron River
7.	OK	Lower Arkansas	Lower Arkansas River
8.	OK	Middle Arkansas	Middle Arkansas Riv er
9.	OK	Cache Creek	Cache Creek
10.	OK	Upper Kiamichi	Upper Kiamichi River
11.	OK	Blue River	Blue River
12	OK	Muddy Boggy and Boggy	Muddy Boggy River and Boggy River
13.	OK	West Cache-Deep Red	West Cache River-Deep Red River
14.	OK	Washita	Washita River
15.	OK	Deep Fork	Deep Fork River
16.	OK	Elm Fork-Red River	Elm Fork River-Red River
17.	OK	Little River	Little River below Thunderbird
18.	OK	Little River (Thunderbird)	Little River (Thunderbird)
19.	OK	Salt Fork-Arkansas	Salt Fork River-Arkansas River
20.	OK	North Fork-Red River	North Fork River-Red River
21.	OK	Red River-Cache Creek	Red River-Texhoma to Cache Creek
22.	OK	Lake Texhoma	Lake Texhoma
23.	OK	Panhandle	Panhandle
24.	OK	Poteau	Poteau River
25.	OK	Arkansas	Arkansas (Keystone to Kaw)

No.	State	Basin	Description of Segment
26.	OK	Upper South Canadian	Upper South Canadian River
27.	OK	Upper South Canadian	Pryor Creek (below Pryor)
28.	OK	Salt Red Fork	Salt Red Fork River
29.	OK	Upper North Canadian	Upper North Canadian River
30.	OK	Cottonwood	Cottonwood
31.	OK	Spavinaw	Spavinaw River
32.	OK	Stillwater Creek	Stillwater Creek
33.	OK	Sallisaw Creek	Sallisaw Creek
34.	OK	Lee Creek	Lee Creek
35.	OK	Middle South Canadian	Middle South Canadian River
36.	OK	Gaines Creek	Gaines Creek (McAlester)
37.	OK	Illinois River	Illinois River
38.	OK	Little River	Little River
39.	OK	Lower Kiamichi	Lower Kiamichi Rive.
40.	OK	Lower South Canadian	Lower South Canadian River
41.	OK	Black Bear Creek	Black Bear Creek
42.	OK	Boggy Creek	Boggy Creek
43.	OK	Skeleton Creek	Skeleton Creek

NOTE: All streams in Oklahoma are currently classified as water quality limited.

REGION VI

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	TX	Canadian River	Canadian River - Lake Meredith to New Mexico
2.	TX	Canadian River	Rita Blanca Lake
3.	TX	Red River	Red River - Arkansas state line at Index to Oklahoma state line
4.	TX	Red River	McKinney Bayou
5.	TX	Sulphur River	Sulphur River - abobe Lake Texarkana, including North, Middle and South Sulphur Rivers
6.	TX	Cypress Creek	Cypress Creek - Louisiana to Caddo Lake headwater
7.	TX	Cypress Creek	Cypress Creek - above Lake O' of the Pines to Franklin County dam
8.	TX	Cypress Creek	Black Bayou
9.	TX	Cypress Creek	James' (Jim's) Bayou
10.	TX	Sabine River	Sabine River - Toledo Bend headwater to US 271 near Gladewater
11.	TX	Sabine River	Adams Bayou Tidal
12.	TX	Neches River	Neches River Tidal
13.	TX	Neches River	Neches River - Steinhagen Reservoir headwater to Blackburn Crossing Dam
14.	TX	Neches River	Neches River - above Lake Palestine
15.	TX	Neches River	Pine Island Bayou
16.	TX	Neches River	Angelina River - Steinhagen Reservoir confluence to Sam Rayburn Dam
17.	TX	Neches River	Sam Rayburn Reservoir
18.	TX	Neches-Trinity Coastal	Taylor Bayou - above tidal
19.	TX	Neches-Trinity Coastal	Sabine-Neches Canal - Stewt's Island to U.S. Coast Guard Station
20.	TX	Trinity River	Trinity River - Lake Livingston headwater to SH 34 near Rosser

No.	State	Basin	Description of Segment
21.	TX	Trinity River	Trinity River - SH 34 near Rosser to Beach Street bridge in Ft. Worth
22.	TX	Trinity River	West Fork Trinity River - Beach St. bridge in Ft. Worth to Lake Worth Dam
23.	TX	Trinity River	East Fork Trinity River - Trinity River confluence to Forney Dam
24.	TX	Trinity River	Elm Fork Trinity River - West Fork Trinity River confluence to Lewisville Dam
25.	TX	Trinity River	Clear Fork Trinity River - Benbrook Reservoir headwater to Weatherford Dam
26.	TX	Trinity-San Jacinto Estuary	Texas City Ship Channel
27.	TX	Trinity-San Jacinto Estuary	Bayport Channel
28.	TX	San Jacinto River	San Jacinto River Tidal - Houston Ship Channel confluence to Lake Houston Dam
29.	TX	San Jacinto River	East Fork San Jacinto River - above Lake Houston
30.	TX	San Jacinto River	Houston Ship Channel - San Jacinto River confluence to Turning Basin, including tidal portions of tributaries (1)
31.	TX	San Jacinto River	Houston Ship Channel - Turning Basin
32.	TX	San Jacinto River	Spring Creek
33.	TX	San Jacinto River	Cypress Creek
34.	TX	San Jacinto-Brazos Coastal	Clear Creek Tidal
35.	TX	San Jacinto-Brazos Coastal	Clear Creek - above tidal
36.	TX	San Jacinto-Brazos Coastal	Dickinson Bayou - above tidal
37.	TX	San Jacinto-Brazos Coastal	Bastrop Bayou - above tidal
38.	TX	San Jacinto-Brazos Coastal	Chocolate Bayou - above tidal
39.	TX	San Jacinto-Brazos Coastal	Oyster Creek - above tidal
40.	TX	Brazos River	Nolan Creek - Leon River confluence to headwater

No.	State	Basin	Description of Segment
41.	TX	Brazos River	Bosque River - Lake Waco headwater to Bosque River headwater, including North, Middle, and South Forks
42.	TX	Brazos River	Nolands River - Whitney Reservoir to Pat Cleburne Dam
43.	TX	Brazos River	Clear Fork Brazos River
44.	TX	Brazos River	Lake Fort Phantom Hill
45.	TX	Brazos River	White River - Salt Fork Brazos River confluence to White River Dam
46.	TX	Brazos River	Double Mountain Fork Brazos River - Salt Fork Brazos River confluence to North Fork Double Mountain Fork Brazos River confluence
47.	TX	Brazos-Colorado Coastal	Caney Creek - above tidal
48.	TX	Colorado River	Pecan Bayou - Colorado River confluence to Lake Brownwood Dam
49.	TX	San Antonio River	San Antonio River - Guadalupe River confluence to headwater
50.	TX	San Antonio River	Cibolo Creek
51.	TX	San Antonio River	Leon Creek - Medina River confluence to headwater
52.	TX	San Antonio-Nueces Coastal	Mission River Tidal
53.	TX	San Antonio-Nueces Coastal	Mission River - above tidal
54.	TX	San Antonio-Nueces Coastal	Aransas River Tidal
55.	TX	San Antonio Nueces Coastal	Aransas River - above tidal
56.	TX	Nueces River	Nueces River - Lake Corpus Christi headwater to IH 35 at Cotulla
57.	TX	Nueces River	Nueces River - IH 35 at Cotulla to headwater
58.	TX	Nueces River	Atascosa River - Frio River confluence to headwater
59.	TX	Nueces Estuary	Corpus Christi Inner Harbor - US 181 bridge to Viola Turning Basin

No.	State	Basin	Description of Segment
60.	TX	Rio Grande	Rio Grande - International Bridge at Brownville to Falcon Dam
61.	TX	Rio Grande	Rio Grande - Riverside Diversion Dam to New Mexico
62.	TX	Rio Grande	Pecos River - County road low water crossing near Pandale to Red Bluff Dam
63.	TX	Rio Grande	Red Bluff Reservoir

TABLE A7

REGION VII

Iowa - (IA)

Kansas - (KS)

Missouri - (MO)

Nebraska - (NB)

REGION VII

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	IA	Western Iowa	Big Sioux River (Sioux City to Minnesota Border)
2.	IA	Western Iowa	Rock River (Lyon-Sioux Co. Line to Minnesota Border)
3.	IA	Western Iowa	Floyd River (Mouth to Highway 10)
4.	IA	Western Iowa	Little Sioux River (Peterson to Milford)
5.	IA	Western Iowa	Maple River (Mouth to Ida Grove)
6.	IA	Western Iowa	Boyer River (Woodbine to Denison)
7.	IA	Western Iowa	Keg Creek (Mouth to Glenwood
8.	IA	Southern Iowa	Nishnabotna River (Missouri Line to Fork)
9.	IA	Southern Iowa	W. Nishnabotna River (Fort to Harlan)
10.	IA	Southern Iowa	E. Nishnabotna River (Fork to Atlantic)
11.	IA	Southern Iowa	Chariton River (Rathbun Dam to Chariton)
12.	IA	Des Moines	Des Moines River (Red Rock Dam to Des Moines)
13.	IA	Des Moines	Des Moines River (Saylorville Dam to Fort Dodge)
14.	IA	Des Moines	E. F. Des Moines River (Fork to Algona)
15.	IA	Des Moines	W. F. Des Moines River (Humboldt/Pochahontas Co. Line to Estherville)
16.	IA	Des Moines	Raccoon River (Des Moines River to North Fork)
17.	IA	Des Moines	N. F. Raccoon River (Fork to Sac-Buena Vista Co. Line)
18.	IA	Des Moines	S. F. Raccoon River (Fork to Guthrie Center)
19.	IA	Des Moines	M. F. Raccoon R. (Fork to Coon Rapids)
20.	IA	Des Moines	Boone River (Des Moines R. to Eagel Grove)
21.	IA	Skunk	South Skunk River (Fork to Story City)
22.	IA	Iowa/Cedar	Iowa River (Coralville Dam to Marshalltown)
23	IA	Iowa/Cedar	Iowa (Confluence with S. Fork to Iowa Falls)

No.	State	Basin	Description of Segment
24.	IA	Iowa/Cedar	Cedar River (Muscatine-Cedar Co. Line to Cedar River)
25.	IA	Iowa/Cedar	Cedar River (Benton Co. Line to Cedar Falls)
26.	IA	Iowa/Cedar	Cedar River (Confluence with Little Cedar River to Charles City)
27.	IA	Iowa/Cedar	Blackhawk Creek (Cedar River to Grundy Center)
28.	IA	Iowa/Cedar	Winnebago River (Shell Rock River to Forest City)
29.	IA	Iowa/Cedar	Wolf Creek (Mouth to Gladbrook)
30.	IA	Northeast Iowa	Otter Creek (West Union to Turkey River)
31.	IA	Northeast Iowa	Maquoketa River (Manchester to Maquoketa)
32.	IA	Northeast Iowa	Crow Creek (Entire Stream)
33.	IA	Northeast Iowa	Duck Creek (Entire Stream)
34.	IA	Northeast Iowa	Upper Iowa River (Decorah to Allamakee Co. Line)
35.	IA	Northeast Iowa	Goose Creek (Entire Stream)
36.	IA	Northeast Iowa	Paint Creek (Waukon to Mississippi River)

REGION VII

Water Quality Limited Stream Segments

The State of Kansas has no water quality limited segments.

REGION VII

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	MO	Meramec River	*Big River (confluence with Eaton Branch to bridge at St. Francis County Road CC)
2.	MO	Meramec River	Meramec River (US 66 Bridge at Times Beach to confluence with Mississippi River)
3.	MO	Lower Missouri River	Platte River (confluence Third Fork to confluence with Missouri River)
4.	MO	Lower Missouri River	Big Blue River (all)
5.	MO	Lower Missouri River	Little Blue River (all)
6.	MO	Lower Missouri River	Perche Creek (confluence with Callahan Creek to confluence with Missouri River)
7.	MO	Lower Missouri River	Coldwater Creek (bridge at Old Halls Ferry Road to confluence with Missouri River)
8.	MO	Grand-Chariton	East Fork Chariton (Randolph-Macon County line to confluence with Little Chariton)
9.	MO	Osage-Gasconade	Big Creek (all)
10.	MO	Osage-Gasconade	Little Sac River (all above Polk County Road K Bridge)
11.	MO	Osage-Gasconade	Big Piney (all)
12.	MO	Grand (Neosho)	Turkey Creek (all)
13.	MO	Grand (Neosho)	Center Creek (US 66 bridge to state line)
14.	MO	White	*James River (confluence with Pearson Creek to confluence with Finley Creek)
15.	MO	Lower Mississippi River	Little St. Francis River (all)

*Stream segments that could not be located on map.

REGION VII

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	NB	Lower Platte	Salt Creek from Beal Slough to Platte River
2.	NB	Missouri Tributaries	Papillion Creek from Big Papillion Creek to Missouri River
3.	NB	Missouri Tributaries	Papillion Creek from South Papillion Creek to Big Papillion Creek
4.	NB	Missouri Tributaries	Big Papillion Creek from Little Papillion Creek to Papillion Creek
5.	NB	Missouri Tributaries	Little Papillion Creek to Big Papillion Creek
6.	NB	Missouri Tributaries	Big Papillion Creek to Little Papillion Creek
7.	NB	Missouri Tributaries	West Papillion Creek to South Papillion Creek
8.	NB	Middle Platte	Wood River from U.S.G.S. Gage #7710 near Riverdale to U.S.G.S. Gage #7720 near Alda
9.	NB	Middle Platte	Wood River from U.S.G.S. Gage #7720 near Alda to Platte River
10.	NB	South Platte	Lodgepole Creek from Lodgepole lagoon outfall to Nebraska - Colorado border
11.	NB	South Platte	Lodgepole Creek from Sidney Draw to Lodgepole lagoon outfall
12.	NB	South Platte	Lodgepole Creek from Bennett Reservoir Dam to Sidney Draw
13.	NB	South Platte	Lodgepole Creek from Nebraska - Wyoming border to Bennett Reservoir Dam
14.	NB	Big Blue	Big Blue River from Idian Creek to Nebraska - Kansas border
15.	NB	Big Blue	Big Blue River from Turkey Creek to Indian Creek
16.	NB	Big Blue	Big Blue River from old STP outfall at Crete to Turkey Creek
17.	NB	Big Blue	Big Blue River from West Fork Big Blue River to old STP outfall at Crete

TABLE A8

REGION VIII

Colorado - (CO)

Montana - (MT)

North Dakota - (ND)

South Dakota - (SD)

Utah - (UT)

Wyoming - (WY)

REGION VIII

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	CO	Arkansas River	Arkansas River from Pueblo SSWTP to Rocky Fork Canal River
2.	CO	Arkansas River	Fountain Creek Source to Conf. W/Arkansas River
3.	CO	Arkansas River	Cucharas River Source to Walsenburg
4.	CO	Colorado River	Grand Lake, Shadow Mountain Reservoir & Lake Grandry Inlet to Outlet
5.	CO	Colorado River	Frazier River & Tributaries Source to Conf. W/Colorado River
6.	CO	Colorado River	Blue River Source to Conf. W/Colorado River
7.	CO	Colorado River	Eagle River Source to Conf. W/Colorado River
8.	CO	Colorado River	Roaring Fork River & Tributaries Source to Conf. W/Colorado River
9.	CO	Colorado River	San Miguel River Source to Conf. W/Delores River
10.	CO	Green River	Yampa River Source to Conf. W/Williams Fork River
11.	CO	South Platte River	South Platte & Tributaries from Source to Outlet of Chatfield Dam
12.	CO	South Platte River	South Platte - Chatfield to Cache la Poudre
13.	CO	South Platte River	Bear Creek - Evergreen to Conf. W/SPR
14.	CO	South Platte River	Clear Creek - Diversion to Conf. W/SPR
15.	CO	South Platte River	Big Thompson Main Stem - Source to Conf. W/SPR
16.	CO	South Platte River	Little Thompson River - Diversion to Conf. W/Big Thompson River
17.	CO	South Platte River	Cache la Poudre - Greeley's STP to Conf. with S. Platte
18.	CO	South Platte River	Cherry Creek
19.	CO	South Platte River	Sand Creek
20.	CO	South Platte River	Big Dry Creek

No.	State	Basin	Description of Segment
21.	CO	South Platte River	St. Vrain River
22.	CO	South Platte River	Boulder Creek
23.	CO	South Platte River	Fariyall Creek
24.	CO	South Platte River	Plum Creek

REGION VIII

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	MT	Upper Missouri River	Madison River
2.	MT	Upper Missouri River	Grasshopper Creek
3.	MT	Upper Missouri River	Gallatin River
4.	MT	Upper Missouri River	Missouri River - Canyon Ferry Lake to Holter Dam
5.	MT	Upper Yellowstone River	Clarks Fork & Yellow River from conf to Yellowstone Cty Line
6.	MT	Upper Yellowstone River	Upper Stillwater River
7.	MT	Upper Yellowstone River	*Gardiner River
8.	MT	Missouri-Sun Smith River	Muddy Creek
9.	MT	Missouri-Sun Smith River	Sun River
10.	MT	Missouri-Sun Smith River	Sand Coulee Creek
11.	MT	Missouri-Sun Smith River	Belt Creek below Dry Fork
12.	MT	Upper Clark Fork River	*Silver Bow Creek - Upper Clark Fork to Garrison
13.	MT	Upper Clark Fork River	Upper Blackfoot River
14.	MT	Flathead River	Flathead above Kerr Dam
15.	MT	Marias River	Teton River
16.	MT	Milk River	Milk River below Havre
17.	MT	Lower Clark Fork River	Clark Fork from Missouri to Flathead River

*Stream segments that could not be located on map.

REGION VIII

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	ND	Red River	Red River below conf. of Sheyenne
2.	ND	Red River	Sheyenne River and Tributaries
4.	ND	Red River	Fargo Metro Area
5.	ND	James River	James River and Tributaries
6.	ND	James River	Wild Rice River Basin

REGION VIII

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	SD	Red River of the North River	All waters
2.	SD	Upper Mississippi-Minnesota River	Upper Mississippi-Minnesota Rivers
3.	SD	Upper Miss-Minn River	Little Minnesota River
4.	SD	Upper Miss-Minn River	Whetstone River
5.	SD	Upper Miss-Minn River	Big Stone Lake
6.	SD	Upper Miss-Minn River	North & South Forks of Yellow Bank River
7.	SD	Upper Miss-Minn River	Lac Qui Parle River
8.	SD	Upper Miss-Minn River	All class 2 & 3 Reservoirs & Lakes
9.	SD	Missouri-Souris River	Little Missouri River
10.	SD	Missouri-Souris River	All class 2 & 3 Reservoirs & Lakes
11.	SD	Missouri-Souris River	Central Missouri Mainstem & Tributaries
12.	SD	Missouri-Souris River	Choteau Creek
13.	SD	Missouri-Souris River	Ponca Creek
14.	SD	Missouri-Souris River	Platte Creek
15.	SD	Missouri-Souris River	Central Missouri River
16.	SD	Missouri-Souris River	Crow Creek
17.	SD	Missouri-Souris River	Medicine Creek
18.	SD	Missouri-Souris River	Joe Creek
19.	SD	Missouri-Souris River	Cedar Creek
20.	SD	Missouri-Souris River	Medicine Knoll Creek
21.	SD	Missouri-Souris River	Antelope Creek
22.	SD	Missouri-Souris River	Okobojo Creek
23.	SD	Missouri-Souris River	Little Cheyenne Creek
24.	SD	Missouri-Souris River	Swan Creek
25.	SD	Missouri-Souris River	Whetstone Creek

No.	State	Basin	Description of Segment
26.	SD	Missouri-Souris River	Spring Creek
27.	SD	Missouri-Souris River	All class 2 & 3 Reservoirs except Mainstem
28.	SD	Grand River	Mainstem including N & S Forks
29.	SD	Grand River	All class 2 & 3 Reservoirs
30.	SD	Moreau River	Mainstem and Little Moreau
31.	SD	Moreau River	All class 2 & 3 Reservoirs
32.	SD	Cheyenne River	Mainstem and all Tribs. to OAHE from State Line
33.	SD	Cheyenne River	Whitewood Creek
34.	SD	Bad River	Mainstem
35.	SD	Bad River	All Class 2 & 3 Reservoirs
36.	SD	White River	Mainstem
37.	SD	White River	Little White River
38.	SD	White River	Lake Creek
39.	SD	White River	All Class 2 & 3 Reservoirs
40.	SD	Missouri Conteau River	All Class 2 & 3 Reservoirs
41.	SD	Niobrara River	Keya Raha River
42.	SD	Niobrara River	Antelope Creek
43.	SD	Niobrara River	All Class 2 & 3 Reservoirs
44.	SD	James River	James River Mainstem
45.	SD	James River	Firesteel Creek
46.	SD	James River	Elm Creek
47.	SD	James River	Maple River
48.	SD	James River	Pierre Creek, 2 miles north of Lake Hansen
49.	SD	James River	All Class 2 & 3 Reservoirs

No.	State	Basin	Description of Segment
50.	SD	Big Sioux River	Big Sioux River
51.	SD	Big Sioux River	Mainstem - Missouri River to Klondike Dam
52.	SD	Big Sioux River	Mainstem - Klondike Dam to L end of Sioux Falls Diver Ditch
53.	SD	Big Sioux River	Mainstem - Sioux Falls Div Dit to Headwaters
54.	SD	Big Sioux River	Pipestone
55.	SD	Big Sioux River	Split Rock Creek
56.	SD	Big Sioux River	All Class 2 & 3 waters
57.	SD	Big Sioux River	Owens Creek
58.	SD	Big Sioux River	All Class 2 & 3 Reservoir of Big Sioux Coteau
59.	SD	Lower Missouri River	Lower Missouri River Mainstem
60.	SD	Lower Missouri River	All Class 2 & 3 Reservoirs
61.	SD	Vermillion River	Vermillion Mainstem
62.	SD	Vermillion River	All Class 2 & 3 Reservoirs

REGION VIII

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	WY	Wind/Bighorn River	Bitter Creek below Powell
2.	WY	Northeastern Wyoming River	Goose Creek below Buffalo
3.	WY	Platte River	Crow Creek below Cheyenne
4.	WY	Black Hills River	Clear Creek below Newcastle

REGION VIII

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	UT	Great Salt Lake	Jordan River and all tributaries
2.	UT	Great Salt Lake	Weber River and all tribs. below Kamas
3.	UT	Great Salt Lake	Bear River from Idaho border to mouth (except Malad)
4.	UT	Great Salt Lake	Malad River from Idaho border to confluence with Bear River
5.	UT	Great Salt Lake	Western Boxelder County
6.	UT	Great Salt Lake	Toole Valley
7.	UT	Great Salt Lake	Great Salt Lake Desert
8.	UT	Lower Colorado	Frement River
9.	UT	Lower Colorado	Middle Colorado River
10.	UT	Lower Colorado	San Juan River
11.	UT	Lower Colorado	Paria River
12.	UT	Lower Colorado	Escalante River
13.	UT	Lower Colorado	Virgin River below Zion National Park Headquarters
14.	UT	Green River	Uinta basin
15.	UT	Green River	Price River below Scholfield Reservoir
16.	UT	Green River	Lower Green River

TABLE A9

REGION IX

Arizona - (AZ)

California - (CA)

Hawaii - (HI)

Nevada - (NV)

REGION IX

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	HI	Hawaii County	Hilo Harbor - Pepeekeo Point to Leleiwi Point
2.	HI	Honolulu County	Mamala Bay - Fort Armstrong to Ahua Point
3.	HI	Honolulu County	Pearl Harbor - Ahua Point to Keahi Point including East, Middle and West Lochs
4.	HI	Honolulu County	Kaneohe Bay - Kualoa Point to Pyramid Rock
5.	HI	Honolulu County	Kahana Bay - Makalii Point to Mahie Point
6.	HI	Honolulu County	Kaiaka Bay - Kaiaka Point to Puuiki Cemetery Point
7.	HI	Kauai County	Kauai Island-Hanapepe Bay - Puolo Point to Port Allen Breakwater
8.	HI	Kauai County	Kauai Island-Hanamaulu Bay - North lip of Bay to Ahukini Landing
9.	HI	Maui County	Maui Island-Kahului Bay - Nele Point to Hobron Point
10.	HI	Maui County	Maui Island-Lahaina - Mala Wharf to Lahaina Lighthouse

REGION IX

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	AZ	Verde River Basin	Verde River from Bartlet Dam to Sullivan Lake
2.	AZ	Salt River Basin	Salt River from Verde River to Headwater
3.	AZ	Salt River Basin	Tonto Creek
4.	AZ	Salt River Basin	Clear Creek
5.	AZ	Salt River Basin	Canyon Creek
6.	AZ	Salt River Basin	White River
7.	AZ	Salt River Basin	East Fork White River
8.	AZ	Salt River Basin	Big Bonita Creek
9.	AZ	Salt River Basin	Black River
10.	AZ	Colorado Main Stem River Basin	Colorado River from Parker to Parker Dam
11.	AZ	Colorado Main Stem River Basin	Colorado River from Lat. 35 N to Pierce Ferry

REGION IX

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	CA	North Coastal	Laguna de Santa Rosa
2.	CA	San Francisco	South San Francisco Bay
3.	CA	San Francisco	Richardson Bay
4.	CA	San Francisco	Livermore Valley
5.	CA	San Francisco	Napa River
6.	CA	San Francisco	Petaluma River
7.	CA	San Francisco	Tomales Bay
8.	CA	Central Coastal	Lower Salinas
9.	CA	Central Coastal	San Lorenzo River
10.	CA	Central Valley	Lower San Joaquin River
11.	CA	Central Valley	Lower Sacramento River
12.	CA	Central Valley	Mokelumne River
13.	CA	Central Valley	Spring Creek
14.	CA	Central Valley	Fourteen Mile Slough
15.	CA	Central Valley	Jackson Creek
16.	CA	Central Valley	Woods Creek
17.	CA	Central Valley	Tuolumne River
18.	CA	Central Valley	Old River (Tracy)
19.	CA	Central Valley	Clear Lake
20.	CA	Central Valley	Stanislaus River
21.	CA	Central Valley	Little Grizzly Creek
22.	CA	North Lahontan	*Leviathin Creek
23.	CA	North Lahontan	Truckee River
24.	CA	West Colorado River	Salton Sea
25.	CA	West Colorado River	New River
26.	CA	West Colorado River	Alamo River

No.	State	Basin	Description of Segment
27.	CA	Santa Anna River	Middle Santa Ana River
28.	CA	Santa Anna River	Big Bear Valley
29.	CA	San Diego	Santa Margarita River
30.	CA	San Diego	San Diego Bay
31.	CA	San Diego	Lower San Diego River

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*Stream segments that could not be located on map.

REGION IX

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	NV	Colorado	*Las Vegas Wash
2.	NV	Colorado	L. Mead & Col. R.
3.	NV	Colorado	Virgin River
4.	NV	Colorado	Pahranagat Lake
5.	NV	Colorado	*Beaver Dam Wash
6.	NV	Truckee	Truckee River
7.	NV	Carson	Carson River
8.	NV	Carson	E. Fk. Carson River
9.	NV	Carson	*Leviathan Creek
10.	NV	Walker	Walker River
11.	NV	Walker	W. Walker River
12.	NV	Walker	E. Walker River
13.	NV	Snake	E. Fk. Owyhee River
14.	NV	Snake	Salmon Falls Creek
15.	NV	Snake	Jarbidge River
16.	NV	Snake	W. Fk. Bruneau River

*Stream segments that could not be located on map.

TABLE A10

REGION X

Alaska - (AK)

Idaho - (ID)

Oregon - (OR)

Washington - (WA)

REGION X

ALASKA

NO WATER QUALITY LIMITED STREAM SEGMENTS

REGION X

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	ID	Southwest	Boise River - Lucky Peak to Middleton
2.	ID	Southwest	Boise River - Middleton to mouth
3.	ID	Southwest	Indian Creek - Source to mouth
4.	ID	Southwest	Snake River - Brownlee Dam to Salmon River confluence
5.	ID	Southwest	Jordan Creek - Source to Ore-Ida border
6.	ID	Southwest	NF Payette River - Source to McCall
7.	ID	Southwest	Weiser River - Source to Midvale
8.	ID	Southwest	SF Payette River - Source to Lowman
9.	ID	Southwest	MF Payette River - Source to mouth
10.	ID	Southwest	Owyhee River - Source to Ore-Ida border
11.	ID	Southwest	Bruneau River - Source to mouth
12.	ID	Upper Snake	Snake River - Roberts to Blackfoot
13	ID	Upper Snake	Snake River - Blackfoot to American Falls Dam
14.	ID	Upper Snake	Snake River - Milner Dam to Buhl
15.	ID	Upper Snake	Rock Creek (USB) - Twin Falls to mouth
16.	ID	Upper Snake	Snake River - Minidoka Dam to Milner Dam
17.	ID	Upper Snake	Portneuf River - Pocatello to mouth
18.	ID	Upper Snake	Henry's Fork - Island Park Dam to mouth
19.	ID	Upper Snake	*Main Drain - Rupert to mouth
20.	ID	Upper Snake	Snake River - American Falls Dam to Minidoka Dam
21.	ID	Upper Snake	Snake River - Ida-Wyo to Heise
22.	ID	Upper Snake	Aberdeen Drain - Source to mouth

No.	State	Basin	Description of Segment
23.	ID	Upper Snake	Bannock Creek - Source to mouth
24.	ID	Upper Snake	Blackfoot River - Source to mouth
25.	ID	Upper Snake	Willow Creek - Source to mouth
26.	ID	Upper Snake	Salmon Falls Creek - Ida-Utah border to mouth
27.	ID	Upper Snake	Marsh Creek - Source to mouth
28.	ID	Upper Snake	Upper Rock Creek (USB) - Source to above Twin Falls
29.	ID	Upper Snake	Portneuf River - Source to above Pocatello
30.	ID	Upper Snake	Raft River - Ida-Utah border to mouth
31.	ID	Upper Snake	Dry Creek (USB) - Source to mouth
32.	ID	Upper Snake	Rock Creek (USB, Power Co.) - Source to mouth
33.	ID	Upper Snake	Henry's Fork - Source to Island Park Dam
34.	ID	Upper Snake	Camas Creek (USB, Camas Co.) - Source to mouth
35.	ID	Upper Snake	SF Teton River - Source to Teton
36.	ID	Upper Snake	Little Wood River - Source to mouth
37.	ID	Upper Snake	Big Lost River - Source to playas
38.	ID	Upper Snake	Camas Creek (Clark Co.) - Source to lake
39.	ID	Upper Snake	Little Lost River - Source to playas
40.	ID	Upper Snake	Clover Creek - Source to mouth
41.	ID	Upper Snake	Birch Creek - Source Playas
42.	ID	Upper Snake	Medicine Lodge Creek - Source to playas
43.	ID	Salmon	Blackbird Creek - Source to mouth
44.	ID	Salmon	Panther Creek - Blackbird Creek to mouth

No.	State	Basin	Description of Segment
45.	ID	Salmon	Snake River - Salmon River confluence to Lewiston
46.	ID	Salmon	Whitebird Creek - Source to mouth
47.	ID	Salmon	Salmon River - Salmon to mouth
48.	ID	Salmon	Beaver Creek - Source to mouth
49.	ID	Salmon	Eagle Creek - Source to mouth
50.	ID	Salmon	Lemhi River - Source to mouth
51.	ID	Salmon	Salmon River - Source to Salmon
52.	ID	Salmon	Big Creek - Source to mouth
53.	ID	Salmon	EF of SF Salmon River - Source to mouth
54.	ID	Salmon	MF Salmon River - Source to mouth
55.	ID	Salmon	SF Salmon River - Source to mouth
56.	ID	Clearwater	Tenmile Creek - Source to mouth
57.	ID	Clearwater	Paradise Creek - Moscow to border
58.	ID	Clearwater	Palouse River - Princeton to Ida-Wash border
59.	ID	Clearwater	SF Palouse River - Source to Ida-Wash border
60.	ID	Clearwater	Palouse River - Laird Park to Ida-Wash border
61.	ID	Clearwater	Orofino Creek - RM10 mouth
62.	ID	Clearwater	Potlatch River - Bovil to mouth
63.	ID	Clearwater	Jim Ford Creek - Weippe to mouth
64.	ID	Clearwater	Lawyer's Creek - Source to mouth
65.	ID	Clearwater	Winchester Lake
66.	ID	Clearwater	Clearwater River - MF & SF confluence to mouth
67.	ID	Clearwater	Tammany Creek - Source to mouth

No.	State	Basin	Description of Segment
68.	ID	Clearwater	Dworshak Reservoir
69.	ID	Clearwater	Potlatch River - Source to Bovil
70.	ID	Clearwater	SF Clearwater River - Source to Elk City
71.	ID	Clearwater	MF Clearwater River - MF & SF confluence to mouth
72.	ID	Clearwater	NF Clearwater River - Source to mouth
73.	ID	Bear Lake	Bear River - Riverdale to Ida-Utah border
74.	ID	Bear Lake	Cub River - Source to Ida-Utah border
75.	ID	Bear Lake	Warm Creek - Source to Idaho-Utah border
76.	ID	Bear Lake	Deep Creek - Source to Ida-Utah border
77.	ID	Bear Lake	Goose Creek - Ida-Utah border to mouth
78.	ID	Panhandle	Hayden Lake
79.	ID	Panhandle	Hangman Creek - Source to Ida-Wash border
80.	ID	Panhandle	Rock Creek (PB) - Source to Ida-Wash border
81.	ID	Panhandle	Santa Creek - Emida to mouth
82.	ID	Panhandle	Houser Lake
83.	ID	Panhandle	Twin Lakes
84.	ID	Panhandle	Fernan Lake
85.	ID	Panhandle	Cocolalla Lake
86.	ID	Panhandle	Spirit Lake
87.	ID	Panhandle	Kelso Lake
88.	ID	Panhandle	Pend Oreille River - Pend Oreille Lake to Ida-Wash border
89.	ID	Panhandle	Kootenai River - Mont-Ida border to US-Canadian border
90.	ID	Panhandle	Pack River - Source to mouth
91.	ID	Panhandle	Priest River - US-Canadian border to mouth

*Stream segments that could not be located on map.

REGION X

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	OR	North Coast River	Necanicum River
2.	OR	North Coast River	Nehalem Bay
3.	OR	North Coast River	Nehalem River
4.	OR	North Coast River	Wilson River, Segment 0-7
5.	OR	North Coast River	Wilson River, Segment 7-
6.	OR	North Coast River	Trask River, Segment 0-6
7.	OR	North Coast River	Trask River, Segment 6-
8.	OR	North Coast River	Tillamook Bay
9.	OR	North Coast River	Tillamook River, Segment 0-15
10.	OR	North Coast River	Tillamook River, Segment 15-
11.	OR	North Coast River	Nestucca Bay
12.	OR	North Coast River	Nestucca River, Segment 0-15
13.	OR	North Coast River	Nestucca River, Segment 15-
14.	OR	North Coast River	Netarts Bay
15.	OR	Mid-Coast Basin	Salmon River
16.	OR	Mid-Coast Basin	Siletz Bay
17.	OR	Mid-Coast Basin	Siletz River
18.	OR	Mid-Coast Basin	Yaquina Bay
19.	OR	Mid-Coast Basin	Yaquina River
20.	OR	Mid-Coast Basin	Alsea Bay
21.	OR	Mid-Coast Basin	Alsea River
22.	OR	Mid-Coast Basin	Siuslaw Bay
23.	OR	Mid-Coast Basin	Siuslaw River
24.	OR	Umpqua Basin	Umpqua Bay
25.	OR	Umpqua Basin	Umpqua River

No.	State	Basin	Description of Segment
26.	OR	Umpqua Basin	North Umpqua
27.	OR	Umpqua Basin	South Umpqua, Segment 0-50
28.	OR	Umpqua Basin	South Umpqua, Segment 50-
29.	OR	South Coast Basin	Coos Bay
30.	OR	South Coast Basin	Coos River
31.	OR	South Coast Basin	Coquille Bay
32.	OR	South Coast Basin	Coquille River
33.	OR	Rogue River Basin	Rogue River
34.	OR	Rogue River Basin	Bear Creek
35.	OR	Lower Columbia Basin	Skipanon River
36.	OR	Lower Columbia Basin	Lewis & Clark River
37.	OR	Lower Columbia Basin	Klaskanine River
38.	OR	Willamette Basin	Willamette River
39.	OR	Willamette Basin	Clackamas River
40.	OR	Willamette Basin	Tualatin River, Segment 0-62
41.	OR	Willamette Basin	Tualatin River, Segment 62-
42.	OR	Willamette Basin	Molalla River
43.	OR	Willamette Basin	Pudding River
44.	OR	Willamette Basin	Yamhill River
45.	OR	Willamette Basin	Rickreall Creek
46.	OR	Willamette Basin	Ludkiamute River
47.	OR	Willamette Basin	Mary's River
48.	OR	Willamette Basin	Santiam River
49.	OR	Willamette Basin	North Santiam River
50.	OR	Willamette Basin	South Santiam River, Segment 0-21

No.	State	Basin	Description of Segment
51.	OR	Willamette Basin	South Santiam River, Segment 21-
52.	OR	Willamette Basin	Calapooia River
53.	OR	Willamette Basin	Long Tom River
54.	OR	Willamette Basin	McKenzie River
55.	OR	Willamette Basin	Coast Fork Will.
56.	OR	Willamette Basin	Middle Fork Will.
57.	OR	Sandy Basin	Sandy River
58.	OR	Hood Basin	Hood River
59.	OR	Hood Basin	East Fork Hood River
60.	OR	Hood Basin	Middle Fork Hood River
61.	OR	Hood Basin	West Fork Hood River
62.	OR	Deschutes Basin	Deschutes River, Segment 0-120
63.	OR	Deschutes Basin	Deschutes River, Segment 120-166
64.	OR	Deschutes Basin	Deschutes River, Segment 166-
65.	OR	Deschutes Basin	Crooked River
66.	OR	John Day Basin	John Day River
67.	OR	Umatilla Basin	Umatilla River
68.	OR	Walla Walla Basin	Walla Walla River
69.	OR	Grande Ronde Basin	Grande Ronde River
70.	OR	Grande Ronde Basin	Wallowa River
71.	OR	Powder Basin	Powder River
72.	OR	Powder Basin	Burnt River
73.	OR	Malheur Basin	Malheur River
74.	OR	Owyhee Basin	Owyhee River
75.	OR	Malheur Lake Basin	Silvies River
76.	OR	Malheur Lake Basin	Donner & Blitzen

No.	State	Basin	Description of Segment
77.	OR	Goose and Summer Lakes Basin	Chewaucan River
78.	OR	Klamath Basin	Williamson River
79.	OR	Klamath Basin	Sprague River
80.	OR	Klamath Basin	Klamath River
81.	OR	Klamath Basin	Lost River
82.	OR	Columbia River Basin	Columbia River
83.	OR	Snake River Basin	Snake River

REGION X

Water Quality Limited Stream Segments

No.	State	Basin	Description of Segment
1.	WA	Nooksack River	Drayton Harbor
2.	WA	Nooksack River	Bellingham Bay
3.	WA	Nooksack River	Inner Bellingham Bay including Whatcom Creek
4.	WA	Nooksack River	Nooksack River and Tributaries from mouth to con with Maple Creek
5.	WA	Nooksack River	Nooksack River and Tributaries above con with Maple Creek
6.	WA	Nooksack River	Sumas River and Tributaries from Canadian Border to Headwaters
7.	WA	Nooksack River	Marine Waters
8.	WA	Upper & Lower Skagit River	Padilla Bay
9.	WA	Upper & Lower Skagit River	Fidalgo Bay
10.	WA	Upper & Lower Skagit River	Skagit Bay
11.	WA	Upper & Lower Skagit River	Skagit River & Tributaries from mouth to Wria 4 Boundary
12.	WA	Stillaguamish & Island & Snohomish River	Port Susan
13.	WA	Stillaguamish & Island & Snohomish River	Stillaguamish River & Trib from mouth to con of N. & S. Forks
14.	WA	Stillaguamish & Island & Snohomish River	Stillaguamish - NF to mouth of Squire Creek
15.	WA	Stillaguamish & Island & Snohomish River	Stillaguamish River NF Squire Creek to Headwaters
16.	WA	Stillaguamish & Island & Snohomish River	Stillaguamish - SF to mouth of Canyon Creek
17.	WA	Stillaguamish & Island & Snohomish River	Stillaguamish River SF Canyon Creek to Headwaters
18.	WA	Stillaguamish & Island & Snohomish River	Saratoga Passage & adjacent harbors
19.	WA	Stillaguamish & Island & Snohomish River	Possession Sound

No.	State	Basin	Description of Segment
20.	WA	Stillaguamish & Island & Snohomish River	Port Gardner Bay & Inner Everett Harbor
21.	WA	Stillaguamish & Island & Snohomish River	Snohomish River to con of Skykomish & Snoqualmie Rivers
22.	WA	Stillaguamish & Island & Snohomish River	Skykomish River to Mouth of May Creek
23.	WA	Stillaguamish & Island & Snohomish River	Skykomish River from May Creek to Headwaters
24.	WA	Stillaguamish & Island & Snohomish River	Snoqualmie River and Tribs from Mouth to Twin Falls State Park on S. Fork
25.	WA	Stillaguamish & Island & Snohomish River	Snoqualmie River Middle Ford from Mouth to River Mile 6.1
26.	WA	Stillaguamish & Island & Snohomish River	Snoqualmie River Middle Fork RM 6.1 to Headwaters
27.	WA	Cedar and Green River	Ship Canal and Lake Union
28.	WA	Cedar and Green River	Lake Washington and Feeder Streams
29.	WA	Cedar and Green River	Cedar River and Tributaries
30.	WA	Cedar and Green River	Small Tribs to Marine Waters
31.	WA	Cedar and Green River	Elliot Bay - Duwamish Waterway
32.	WA	Cedar and Green River	Duwamish-Green and Tribs from Mouth to Fleming Geyser Park
33.	WA	Cedar and Green River	Small Tribs to Marine Water
34.	WA	Puyallup and Chambers-Clover River	*Commencement Bay
35.	WA	Puyallup and Chamber-Clover River	Puyallup River from RM-1 to Kings Creek
36.	WA	Puyallup and Chamber-Clover River	Puyallup River from Kings Creek to Headwaters and Tributaries
37.	WA	Puyallup and Chamber-Clover River	White River from Mouth to Mud Mt. Dam and Tributaries
38.	WA	Puyallup and Chamber-Clover River	White River from Mud Mt. Dam to Headwaters and Tributaries

No.	State	Basin	Description of Segment
39.	WA	Puyallup and Chamber-Clover River	*Chambers Creek - Clover Creek and Tributaries
40.	WA	Nisoually and Deschutes River	Nisoually River and Tributaries
41.	WA	Nisoually and Deschutes River	Nisoually River Estuary
42.	WA	Nisoually and Deschutes River	Budd Inlett
43.	WA	Nisoually and Deschutes River	Deschutes River and Tributaries
44.	WA	Kennedy-Goldsborough and Kitsap and Skokomish-Dosewallips River	Oakland Bay West of Lat 123 D 05' and Tributaries to Oakland Bay
45.	WA	Kennedy-Goldsborough and Kitsap and Skokomish-Dosewallips River	Small Tributaries on Kitsap Penn.
46.	WA	Kennedy-Goldsborough and Kitsap and Skokomish-Dosewallips River	Kitsap Penn. Inlets
47.	WA	Kennedy-Goldsborough and Kitsap and Skokomish-Dosewallips River	Tributaries to Hood Canal
48.	WA	Kennedy-Goldsborough and Kitsap and Skokomish-Dosewallips River	Hood Canal Surface Waters
49.	WA	San Juan River	Marine Waters - San Juan Islands
50.	WA	Quilcene-Snow and Elwah-Dungeness and Lyre-Hoko and Soleduck-Hoh River	Port Townsend Harbor
51.	WA	Quilcene-Snow and Elwah-Dungeness and Lyre-Hoko and Soleduck-Hoh River	Sequim Bay
52.	WA	Quilcene-Snow and Elwah-Dungeness and Lyre-Hoko and Soleduck-Hoh River	Chimicum Creek

No.	State	Basin	Description of Segment
53.	WA	Quilcene-Snow and Elwah-Dungeness and Lyre-Hoko and Soleduck-Hoh River	Elwha River and Tributaries
54.	WA	Quilcene-Snow and Elwah-Dungeness and Lyre-Hoko and Soleduck-Hoh River	Port Angeles Harbor
55.	WA	Quilcene-Snow and Elwah-Dungeness and Lyre-Hoko and Soleduck-Hoh River	Port Angeles Harbor Tributaries
56.	WA	Quilcene-Snow and Elwah-Dungeness and Lyre-Hoko and Soleduck-Hoh River	Hoko River and Tributaries
57.	WA	Quilcene-Snow and Elwah-Dungeness and Lyre-Hoko and Soleduck-Hoh River	Pysht River and Tributaries
58.	WA	Quilcene-Snow and Elwah-Dungeness and Lyre-Hoko and Soleduck-Hoh River	Straits of Juan De Fuca, Marine Waters
59.	WA	Quilcene-Snow and Elwah-Dungeness and Lyre-Hoko and Soleduck-Hoh River	Hoh River and Tributaries
60.	WA	Quilcene-Snow and Elwah-Dungeness and Lyre-Hoko and Soleduck-Hoh River	*Quillayute River and Tributaries
61.	WA	Quilcene-Snow and Elwah-Dungeness and Lyre-Hoko and Soleduck-Hoh River	Quillayute River Estarine Waters
62.	WA	Quilcene-Snow and Elwah-Dungeness and Lyre-Hoko and Soleduck-Hoh River	Pacific Ocean, Marine Waters
63.	WA	Queets-Quinault and Lower Chehalis and Upper Chehalis River	Queets River and Tributaries
64.	WA	Queets-Quinault and Lower Chehalis and Upper Chehalis River	Quinault River and Tributaries
65.	WA	Queets-Quinault and Lower Chehalis and Upper Chehalis River	Grays Harbor

No.	State	Basin	Description of Segment
66.	WA	Queets-Quinault and Lower Chehalis and Upper Chehalis River	Inner Grays Harbor East of Long 123 D 59'W to Cosmopolis and Tide Waters of Wishkah and Hoquiam River
67.	WA	Queets-Quinault and Lower Chehalis and Upper Chehalis River	Humptulipe River and Tributaries
68.	WA	Queets-Quinault and Lower Chehalis and Upper Chehalis River	Hoquiam River and Tributaries
69.	WA	Queets-Quinault and Lower Chehalis and Upper Chehalis River	Wishkah River and Tributaries
70.	WA	Queets-Quinault and Lower Chehalis and Upper Chehalis River	*Wildcat Creek and Tributaries
71.	WA	Queets-Quinault and Lower Chehalis and Upper Chehalis River	Colquallum Creek and Tributaries
72.	WA	Queets-Quinault and Lower Chehalis and Upper Chehalis River	Chehalis River from Cosmopolis to Seammen Creek
73.	WA	Queets-Quinault and Lower Chehalis and Upper Chehalis River	Chehalis River from Scammen Creek to the Newaukum River
74.	WA	Queets-Quinault and Lower Chehalis and Upper Chehalis River	Nowaukum River and Tributaries
75.	WA	Queets-Quinault and Lower Chehalis and Upper Chehalis River	Chehalis River from Newaukum River to Headwaters and Tributaries
76.	WA	Queets-Quinault and Lower Chehalis and Upper Chehalis River	Pacific Ocean
77.	WA	Willapa River	Willapa Bay
78.	WA	Willapa River	Willapa River from Mouth to Limit at Tidal Influence

No.	State	Basin	Description of Segment
79.	WA	Willapa River	Willapa River from Limit at Tidal Influence to Headwaters
80.	WA	Willapa River	Willapa Bay Tributaries
81.	WA	Willapa River	Pacific Ocean
82.	WA	Grays-Elokoman and Cowlitz River	Grays Bay
83.	WA	Grays-Elokoman and Cowlitz River	Grays River
84.	WA	Grays-Elokoman and Cowlitz River	Elocohman
85.	WA	Grays-Elokoman and Cowlitz River	Cowlitz River and Tributaries
86.	WA	Grays-Elokoman and Cowlitz River	Coweeman River and Tributaries
87.	WA	Lewis and Salmon-Washougal River	Lewis River and Tributaries
88.	WA	Lewis and Salmon-Washougal River	Kalama River and Tributaries
89.	WA	Lewis and Salmon-Washougal River	Salmon Creek and Tributaries
90.	WA	Lewis and Salmon-Washougal River	*Burnt Bridge Creek and Tributaries
91.	WA	Lewis and Salmon-Washougal River	Washougal
92.	WA	Walla Walla River	Walla Walla River and Tributaries
93.	WA	Walla Walla River	Touchet River and Tributaries
94.	WA	Walla Walla River	Mill Creek and Tributaries
95.	WA	Palouse River	Palouse River and Tributaries
96.	WA	Palouse River	S.F. Palouse River and Tributaries
97.	WA	Lower and Middle Snake River	Snake River from Lower Granite Dam to Wash-Oregon Border

No.	State	Basin	Description of Segment
98.	WA	Lower and Middle Snake River	Tucannan River and Tributaries
99.	WA	Lower and Middle Snake River	Grande Ronde
100.	WA	Lower and Middle Snake River	Snake River and Tributaries from Mouth to Lower Granite Dam
101.	WA	Upper and Lower Yakima and Naches and Alkali-Squilchuck River	Yakima River and Tributaries from Mouth to Sunnyside Dam Bridge
102.	WA	Upper and Lower Yakima Naches and Alkali-Squilchuck River	Yakima River and Tributaries from Sunnyside Dam BR to Wilson Creek
103.	WA	Upper and Lower Yakima and Naches and Alkali-Squilchuck River	*Wide Hallow Creek and Tributaries
104.	WA	Upper and Lower Yakima and Naches and Alkali-Squilchuck River	Naches River and Tributaries
105.	WA	Upper and Lower Yakima and Naches and Alkali-Squilchuck River	Yakima River and Tributaries from Thorp to Headwaters
106.	WA	Upper and Lower Yakima and Naches and Alkali-Squilchuck River	Wilson Creek and Tributaries
107.	WA	Esquatzel Coulee and L Crab and Grand Coulee and J Crab-Wilson and Moses Coulee and Foster and L Lake Roose	Crab Creek and Tributaries in Lower Crab
108.	WA	Esquatzel Coulee and L Crab and Grand Coulee and J Crab-Wilson and Moses Coulee and Foster and L Lake Roose	Crab Creek and Tributaries in Grand Coulee
109.	WA	Esquatzel Coulee and L Crab and Grand Coulee and J Crab Wilson and Moses Coulee and Foster and L Lake Roose	Crab Creek and Tributaries in Upper Crab-Wilson

No.	State	Basin	Description of Segment
110.	WA	Esquatzel Coulee and L Crab and Grand Coulee and J Crab Wilson and Moses Coulee and Foster and L Lake Roose	Wria - Foster
111.	WA	Esquatzel Coulee and L Crab and Grand Coulee and J Crab Wilson and Moses Coulee and Foster and L Lake Roose	Wria 51
112.	WA	Esquatzel Coulee and L Crab and Grand Coulee and J Crab Wilson and Moses Coulee and Foster and L Lake Roose	Wria, Foster, Columbia River
113.	WA	Wenatachee and Entiat and Chelan River	Entiat River and Tributaries
114.	WA	Wenatachee and Entiat and Chelan River	Wria Chelan - Lake Chelan and Tributaries
115.	WA	Methow and Okanogan and Nespelem River	Methow River and Tributaries
116.	WA	Methow and Okanogan and Nespelem River	Okanogan River Mouth to Lake Osoyoos
117.	WA	Sanpoil and M&U Lake Roose & Colville and Kettle and Pend Oreille River	Wria M. Lake Roosevelt, Columbia River
118.	WA	Sanpoil and M&U Lake Roose Pend Oreille River	Colville River and Tributaries
119.	WA	Sanpoil and M&U Lake Roose Pend Oreille River	Sanpoil River and Tributaries
120.	WA	Sanpoil and M&U Lake Roose Pend Oreille River	Nettle River and Tributaries
121.	WA	Sanpoil and M&U Lake Roose Pend Oreille River	Pend D'Oreille River and Tributaries
122.	WA	Low and Mid and Little Spokane and Hangman River	Spokane River Mouth to ID-WA Border
123.	WA	Low and Mid and Little Spokane and Hangman River	Little Spokane and Tributaries

No.	State	Basin	Description of Segment
124.	WA	Low and Mid and Little Spokane and Hangman River	Hangman Creek
125.	WA	Low and Mid and Little Spokane and Hangman River	Puget Sound
126.	WA	Low and Mid and Little Spokane and Hangman River	Columbia River

*Stream segments that could not be located on map.

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15. SUPPLEMENTARY NOTES

16. ABSTRACT

This report presents available information that is used to examine the impact of water quality required by Public Law 92-500 on the effluent quality discharged from publicly owned wastewater treatment plants and assesses the adequacy of existing technology to meet these requirements. The report also identifies effluent standards that are more stringent than the national minimum requirement for "secondary" treatment. A major effort was, therefore, devoted to reviewing state water quality standards, identifying all water quality limited stream segments within each state, and summarizing and evaluating concentrations of pollutants in municipal wastewater treatment plant effluents reported in the 1973 Needs Survey.

A comparison of existing technology with projected needs indicates that some form of technology is available to achieve the required removal of suspended solids, nitrogen and phosphorus. However, development and demonstration of additional technology are needed to reduce BOD concentrations to the required limits and to provide alternate disinfection processes.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
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